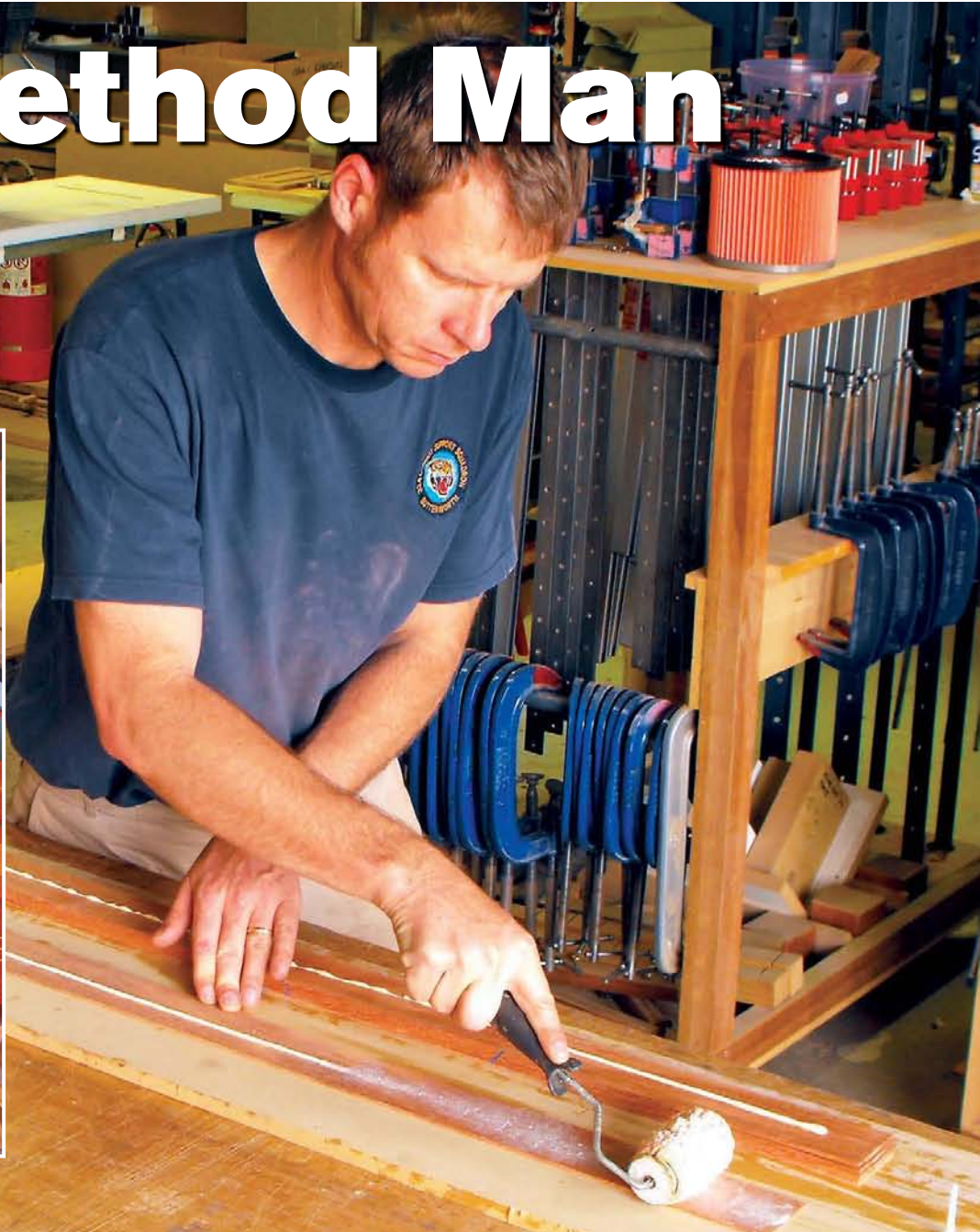


# Furniture & cabinetmaking

DESIGN • INSPIRATION • PROJECTS • TECHNIQUES • TESTS • NEWS • EXCELLENCE

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but not a purist



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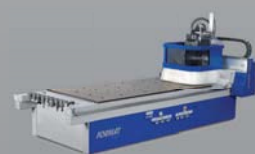
Pick-Up Tool Changer



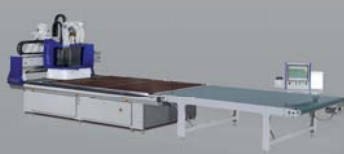
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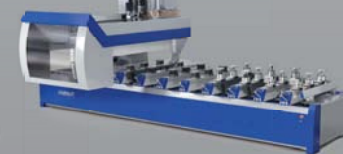
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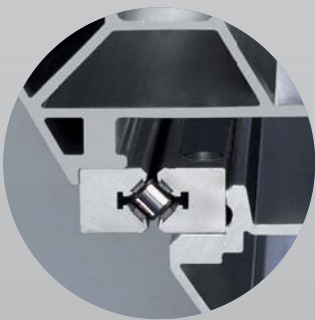


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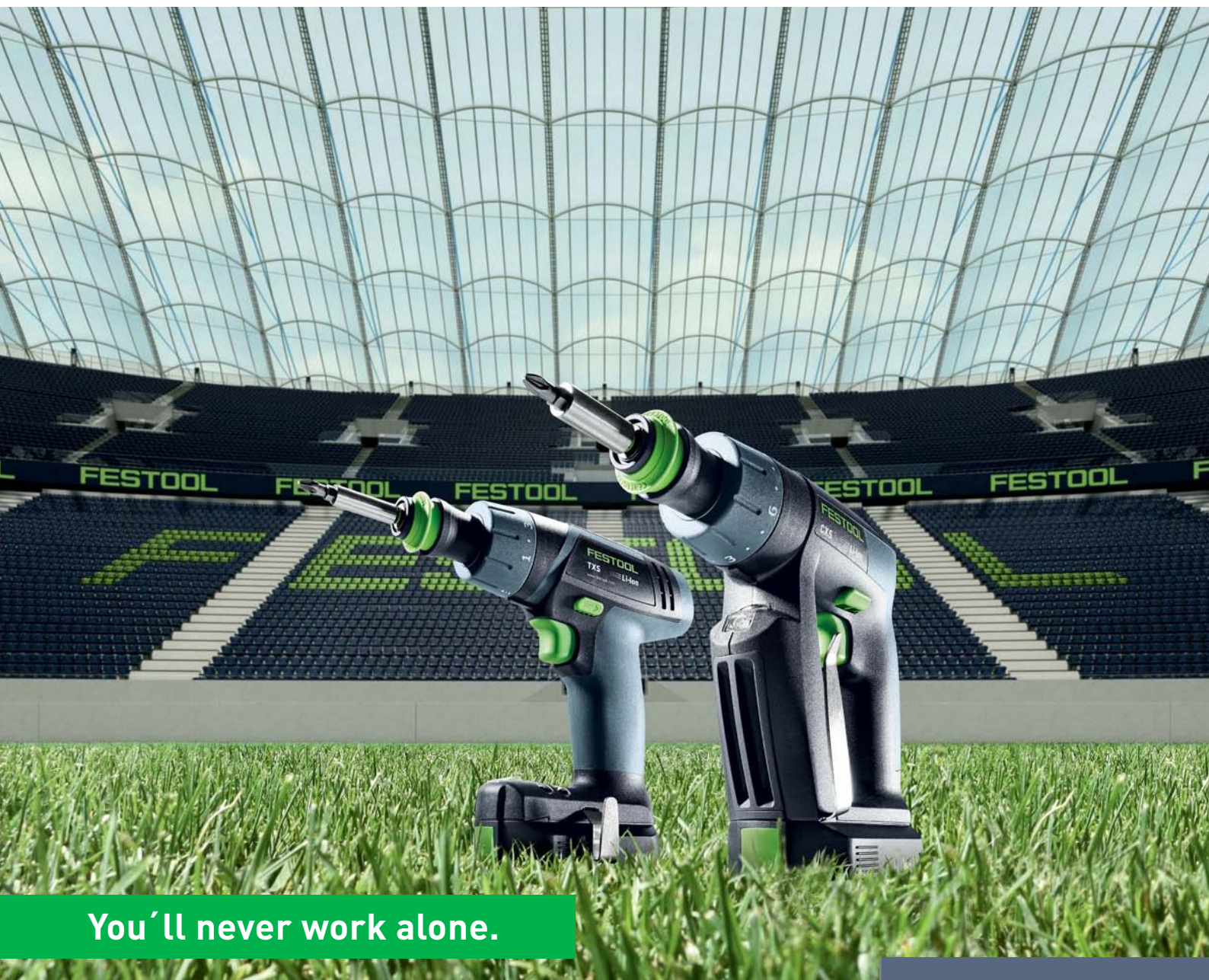
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# Welcome to...

## 18th-century brilliance



PHOTOGRAPHY: GUY/DEREK JONES

**L**ook closely and you'll see a gentle nod in the direction of the tools and equipment required for veneering in this issue. A birdy tells me we're going to see more on this subject in the months ahead. If you haven't already, get yourself acquainted with the works of ébéniste du roi Jean-François Oeben and cabinetmaker to King Louis XVI, Jean-Henri Riesener (1734–1806). It'll stand you in good stead for what's to come. If this sounds a little advanced or even vaguely random, then maybe nip back through the *F&C* archives to issue 201 and revisit our cover story about the Bureau de Roi. If that's not an option, invest in a copy of Donald C. Williams' *To Make as Perfectly as Possible* from Lost Art Press and you'll be well covered. The rest of 2015 and probably beyond will witness a remarkable turn of events for woodworkers that will, at its worst, have us fluent in Franglais and at its best, finer craftsmen all round.

### New for 2015

With that in mind, there's someone I'd like you to meet in this issue, Anne Briggs Bohnett. Anne's in no way a stranger to *F&C* and she will be joining us on a regular basis to share her experiences as part of the new generation of woodworking professionals. I'm a great believer in positive thinking and with Anne, I think we've found a voice to help champion our cause and encourage non-woodworkers to engage with the craft.

### Upcoming events

Typically it's around this time of year that the seasons start to change for workshop inhabitants: there's a bit more daylight at the start and end of the day and less chill in the air. And when you've finished tackling the after effects of a damp spell on your prized hardware, it's also the time when we start to see new products emerge and the first of the woodworking shows. Yandles in

Somerset next month is a good example and a great place not only to source timber but hunt through the stalls of quality tools. There might not be anything 'new' but there will always be something new to discover, such as 18th-century French marquetry, for example.

### Barn find

My best find this month came from a jumble of assorted rusty metalwork in a decaying toolbox: a 150mm length of 16mm brass hex bar. Overlooked by everyone else as junk, it screamed plane hammer to me and I had just the right incentive.

**A lunchtime project from ropala and brass**

**Derek Jones**  
derekj@thegmcgroup.com



# Furniture & cabinetmaking

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PRINTED IN THE UK  
Stephens and George Print Group

DISTRIBUTION Seymour Distribution Ltd  
Tel: 020 7429 4000

Furniture & Cabinetmaking magazine (ISSN 1365-4292)  
is published every four weeks by Guild of Master Craftsman  
Publications Ltd

SUBSCRIPTION RATES (includes p&p)  
UK Europe Rest of World  
12 issues £51.00 £63.75 £71.40  
24 issues £102.00 £127.50 £142.80

US subscribers visit [www.lightningpublications.com](http://www.lightningpublications.com) for  
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Woodworking is an inherently dangerous  
pursuit. Readers should not attempt the  
procedures described herein without  
seeking training and information on the  
safe use of tools and machines, and all readers should  
observe current safety legislation.

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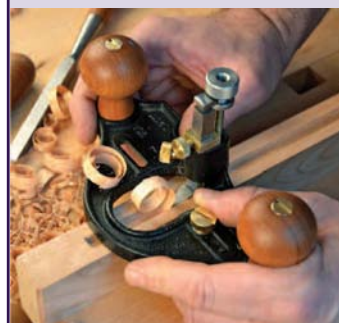
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Contribute to these pages by telling us about matters of interest to furniture makers. Call Tegan Foley on 01273 402 839 or email [teganf@thegmcgroup.com](mailto:teganf@thegmcgroup.com). Please accompany information with relevant, hi-res images wherever it is possible

# News & Events

## Ellis Furniture awards further apprentices

Cabinetmakers of Ellis Furniture, Patrick Madigan and Jake Sykes, both 18, have successfully completed their apprenticeship levels 1 and 2 in wood machining, which focuses on the specialist machinery side of furniture making. The pair will now become full-time employees at the design-led company as they work towards gaining their level 3, where they will continue to undertake numerous projects, which start with initial ideas and then fully develop into pieces of contemporary furniture.

In conjunction with Leeds College of Building – the UK's only specialist construction college – Ellis Furniture employs three apprentices every year and has seen over 50 of its employees over four generations join the company through the scheme.

Ellis Furniture director Richard Ellis comments: "It is always wonderful to see our apprentices do so well and with over a



PHOTOGRAPH COURTESY OF ELLIS FURNITURE

MD Richard Ellis with one of the young apprentices

quarter of our workforce starting out as apprentices, their success demonstrates that they are as passionate about furniture making as we are. We truly value the role our apprentices play in the continued success of our business."

The Huddersfield-based company has awarded Patrick and Jake with £50 worth of high street vouchers to spend and wish the pair every success in their careers at Ellis Furniture. For more information, see [www.ellisfurniture.co.uk](http://www.ellisfurniture.co.uk).

## Dovetailors' custom console table

Furniture designer and manufacturer Dovetailors have just completed work on an elegant mid-century style console table.

The project was commissioned by a former customer who wanted something that would match the burr oak (*Quercus spp.*) of their existing furniture but which had a unique style of its own.

"The customer initially came to us with a hand-drawn sketch and

a rough idea," said David Wilson, creative director at Dovetailors. From there the Dovetailors team worked with them to evolve a contemporary piece of furniture that would house the customer's treasured turntable and LP collection. Functionality was always at the heart of the design process and this included developing features that would make the table a real pleasure to use, such as smooth push-to-open drawers," David explains. "The drawer fronts are in burr oak with rosewood (*Dalbergia retusa*) detailing, creating a beautiful piece of furniture."

The legs of the console table are tapered and mitred, as is the frame, and it has been made using a combination of oak and burr oak to complement a media centre that was created for the customer by Dovetailors five years ago.

For more information, see [www.dovetailors.co.uk](http://www.dovetailors.co.uk).

**The mid-century style console table, which has been recently completed by Dovetailors**



PHOTOGRAPHS COURTESY OF DOVETAILORS

# Osmo gets the thumbs up in Scotland



This self-built 'double log' construction cabin is treated with a variety of Osmo finishes

When a family took on a new self-build project in 2008 to build a 'double log' construction as their new home in Woodhead, Aberdeenshire, they were in need of a wide range of interior and exterior wood treatments. Osmo's eco-friendly wood finishes were recommended to provide an aesthetically pleasing appearance and long-lasting protection. Six years on, and the Osmo finishes, inside and out, are still providing optimum results.

Long Rig is located on the crest of a hill, offering fantastic views of the Grampian Mountains. Not wanting to distract from the beauty of the natural landscape, owners Russell and Janice Quinlan chose to build a wooden house. All the exterior and interior wood of Long Rig is Finnish pine (*Pinus spp.*)



and with so much wood on display, a reliable and protective wood finish was required; Osmo Natural Oil Woodstain in Pine (700) for the exterior wood and Osmo Wood Protector for all of the interior wood.

Osmo Natural Oil Woodstain, an oil-based protective finish, provides protection against all weather conditions, with its active ingredients defending the material from mould, algae and fungal attack. Turning their attention to the inside of the property, the couple opted for Osmo Wood Protector. This finish preserves the original quality of the natural wood. It is a great product to use in areas of high moisture such as the kitchen and bathroom due to its increased water protection. It was the perfect primer for the internal wooden finish. The interior was then finished with Polyx Oil.

## Scotts of Thrapston supports value of volunteering

Sir Richard Branson recently extolled the virtues of encouraging staff to undertake voluntary work – and the boss of a Northamptonshire joinery specialist fully agrees. The Virgin Group tycoon said businessmen and women should have more goals than simply profits if they are to survive and thrive, and that has long been the mantra of two leading figures at Scotts of Thrapston, who manage to fit a busy schedule of local community and charity work around order books, VAT returns and business meetings.

Company chairman David Scott, a third generation member of the Scott family and Peter Waddup, the firm's managing director, take their community responsibility seriously, but both men insist that the satisfaction they get out of helping others more than makes up for the hours of effort and hard work.

David is a N100 member of the Northamptonshire Community Foundation, which strives to help enrich the lives of local, disadvantaged people by delivering around £600,000 a year funding to the local voluntary and community sector. He is also involved with the Northamptonshire Enterprise Partnership, helping to attract more business and jobs to the area and is on the board of the North Northants Development Company, which is facilitating the construction of 40,000 homes in and around Northants, attracting



Government grants for infrastructure.

Peter's charity work, meanwhile, started after a backpacking trip around India in the 1990s. Peter now admits that during that trip he would cross the road to avoid people with leprosy. The memory of the marginalised people stuck with him and in 2009 Peter, a qualified accountant, was asked to join the Board of Trustees at The Leprosy Mission England and Wales. Today he is chairman of the charity.

Scotts of Thrapston is one of the country's leading suppliers of specialist timber products, including, bespoke joinery and education buildings. See [www.scottsofthrapston.co.uk](http://www.scottsofthrapston.co.uk).

## TIMBER TRADE NEWS *witches' brooms*



Witch's brooms on Downy Birch, caused by the fungus *Taphrina betulina*

Witches' brooms are abnormally dense, disorganised clusters of twigs arising from a single site on a normal tree branch. They come into leaf earlier than the rest of the tree, bear few if any flowers and lose their leaves prematurely in the autumn. From a distance they can be mistaken for mistletoe. They are common on birch (*Betula pendula*) and hornbeam (*Carpinus spp.*) but occur less commonly on many other trees. Fungi in the genus *Taphrina* cause brooms on *Betula*, *Carpinus* and *Prunus*.

In the summer the fungus produces white spores on the underside of the leaves in the broom and these spores become airborne and initiate new infections via leaves, which then spread to the stems and stimulate twig proliferation. Other causes of brooms include the rust fungus *Melampsora caryophyllacearum* on *Abies*, and phytoplasmas, microscopic infectious agents rather similar to viruses. Witches' brooms presumably cause a small reduction in vigour, but this has been little studied and is not likely to be important. They are unlikely to have any significant effect on timber quality. It is seldom thought necessary to control them, but they can be pruned out: *Prunus* should only be pruned during the summer to avoid silver leaf disease.

Chris Prior



Witch's broom on a white pine



# Effect of CO2 on tropical forests

With tropical forests containing a quarter of all the carbon found in living things, they have been suggested to be a major carbon sink. They remove carbon dioxide from the atmosphere, which left in the air, would help retain more heat in the atmosphere and have more of an impact on climate change. This, researchers believed, would act as tree fertiliser and boost their growth. However, new findings say otherwise.

These contradictory results come from scientists who have analysed over 1,100 individual trees from forests in Bolivia, Thailand and Cameroon. Previous studies made inventories of the total number of trees in particular regions of tropical forests and found the numbers increasing. The new results mean that tropical forests are becoming more dense rather than individual trees growing faster, as previously had been thought.

The study came about as over the past 150 years, the concentration of carbon dioxide in the atmosphere has increased by 30-35%, therefore driving more photosynthesis, causing faster growth and fatter tree rings. This would then be assumed to boost tree growth.

However, Peter van der Sleen at Wageningen University, The Netherlands and his colleagues found no such increase in the 1,109 trees from 12 species they studied. Peter explains: "It was very surprising. The results call into question whether tropical forests are carbon sinks. The experiments that predicted accelerated tree



A tree canopy of a tropical rainforest

growth with increases in carbon dioxide are elegant and convincing. Why tree density would be enhanced but not existing tree growth is very difficult to answer."

A network of 50m-high towers have been installed in some forests measuring the concentration of carbon dioxide in the air above the tree canopy. Results show that CO2 appears to be pulled from the air by the forests, the question is, where does it go? The new finding could indicate that such forests are not helping mitigate the effects of climate change by removing excess CO2 from the atmosphere.

## 'CATable' by Ruan Hao offers a shared work surface for cats and their owners

Designed by Ruan Hao of LYCS Architecture, the CATable doubles up as a cats' playground with built-in holes and tunnels for curious felines to explore. As the designer says: "It is a table for us, and a paradise for cats!"

Made from a solid piece of wood, the tabletop features a series of openings and tunnels that have been carved out by hand to create spaces for a cat to satisfy its curiosity and allow pet owners to share their work space with a feline friend.

The table also features angled wooden legs that have been stained with a darker pigment. It was shown last year in an exhibition at Milan University as part of Milan design week.

Ruan's creation is the latest case of a designer offering a response to a perceived demand for animal-orientated furniture. For more information, see [www.ruanhao.com](http://www.ruanhao.com).



'CATable' by Ruan Hao

## Torafu Architects hides dolls' house within a wooden chair



The 'Dollhouse Chair' in its closed and functional state...

The 'Dollhouse Chair' was designed by Tokyo-based Torafu Architects and appears to be a simple chair, but look closer and you will discover that it has two more uses. Designers Koichi Suzuno and Alicja Strzyzyskaby created the pieces to split into two, which reveals a dolls' house. When the piece is closed, it also acts as storage. The painted white beech (*Fagus spp.*) plywood chair splits vertically and hinges open to reveal a small space on each side. The chair's slanted arms become roof gables, while the divided hollow seat provides four ledges for placing tiny furniture. The multifunctional furniture piece can therefore be used for sitting, playing and storing toys. For more information, see [www.torafu.com](http://www.torafu.com).



... and when open, reveals a dolls' house

# Events

## The South London Vintage Furniture Flea

Doing away with expensive replicas and focusing on quality and affordability, the Flea provides an antidote; a celebration of mid-century living from the '50s and beyond. The event features 50 top vintage traders, all offering furniture and homewares without costing the earth.

**When:** 22 February, 2015

**Where:** Lambeth Town Hall, Brixton Hill, London SW2 1RW

**Web:** [www.judysvintagefair.co.uk](http://www.judysvintagefair.co.uk)

## FFX Toolshow

The UK's favourite tool show is back and set to be even bigger and better. FFX have once again brought together all the biggest manufacturers to give you the best hands-on tool show for professional and DIYer.

**When:** 27 February–1 March, 2015

**Where:** Kent Event Centre, Kent County Show Ground, Detling Hill, Detling, Maidstone ME14 3JF

**Web:** [www.ffx.co.uk/toolshow](http://www.ffx.co.uk/toolshow)

## The South East Woodworking Show

This year's event promises to be a mix of demonstrations, personalities, trade stands, advice and fun. This year's confirmed demonstrators include woodturner Tony Wilson as well as finishing expert Mark Raby. The show features free parking, free show guide and a free raffle.

**When:** 6–7 March, 2015

**Where:** Kent County Show Ground, Detling Hill, Detling, Maidstone ME14 3JF

**Web:** [www.nelson.co.uk](http://www.nelson.co.uk)

## London Design Week

Billed as spring's ultimate design event, London Design Week showcases the most stylish and innovative fabrics, furniture, wallcoverings, lighting, accessories, kitchens, bathrooms, outdoor living, tiles and carpets. There will be exhibits from 500 brands as well as a series of talks by top designers and 'Access All Areas' showroom sessions.

See the website for the full itinerary of events happening throughout the week.

**When:** 8–13 March, 2015

**Where:** Design Centre, Chelsea Harbour, Lots Road, London SW10 0XE

**Web:** [www.dcch.co.uk](http://www.dcch.co.uk)



PHOTOGRAPH COURTESY OF WWW.TIMEOUT.COM

London Design Week

## Alexandra Palace Antiques & Collectors Fair

This one day pop-up fair at Alexandra Palace will feature a variety of antique and vintage collectibles, which have been carefully selected by quality traders.

**When:** 8 March, 2015

**Where:** Alexandra Palace, Alexandra Palace Way, London N22 7AY

**Web:** [www.iacf.co.uk](http://www.iacf.co.uk)

## Apprentice's stool course

Suitable for beginners and intermediates, this course at West Dean College covers a range of furniture making tools and construction methods and teaches you how to make a useful solid wood stool. Learn how to mark out accurately and cut mortise and tenon joints, to sharpen and effectively use hand woodworking tools and understand the behaviour of solid timber and when to use particular joints. The course tutor is Peter Kuh and prices start from £371.

**When:** 12–15 March, 2015

**Where:** West Dean College, West Dean, North Chichester, West Sussex PO18 0QZ

**Web:** [www.westdean.org.uk](http://www.westdean.org.uk)

## Dovetailed cabinet and drawer course

Also taking place at West Dean College, this course with Tom Kealy teaches you how to make a small hardwood cabinet with a drawer. The course is designed to take you step-by-step through all the stages and processes of construction using dovetails and lap dovetail joints. Topics include setting out, cutting and assembling dovetails and fine-tuning of

tools. The basic use of the router and other skills involved in the construction of the cabinet, such as hinging, are also covered. Basic woodworking skills are necessary. This course is designed for intermediate woodworkers and prices start from £518.

**When:** 22–27 March, 2015

**Where:** West Dean College, West Dean, North Chichester, West Sussex PO18 0QZ

**Web:** [www.westdean.org.uk](http://www.westdean.org.uk)

## Regency Taste: furniture and interiors in Turner's time

This talk, given by Catherine Parry-Wingfield takes place at Turner's House in Twickenham on 18 March. A perfect event to attend for those interested in Turner and the Regency period.

**When:** 18 March, 2015

**Where:** Hyde Room, York House, Richmond Road, Twickenham, Greater London TW1 3AA

**Web:** [www.turnerintwickenham.org.uk](http://www.turnerintwickenham.org.uk)

## China International Furniture Fair

The 35th China International Furniture Fair (CIFF) will feature modern home furniture, classical home furniture, outdoor living, home decor and home textiles and a wide range of new fashion for home furnishings.

**When:** 18–22 March, 2015

**Where:** China Import and Export Fair Pazhou Complex, Guangzhou, China

**Web:** [www.chinaexhibition.com](http://www.chinaexhibition.com)



PHOTOGRAPH COURTESY OF WWW.DEEKEN.COM

The Ideal Home Show

## Ideal Home Show

For over 100 years the Ideal Home Show has been helping to transform British Homes. You can see everything from kitchens and bathrooms, to bedrooms and basements, from fixtures and fittings to fine food, gardens and the latest gadgets, plus fashion, beauty and gifts – you'll find it all under one roof at this award-winning show. Whether you have a substantial home project in mind or are just browsing for something you can't find on the high street, you're sure to find something of interest at this established event.

**When:** 20 March–6 April, 2015

**Where:** Olympia London, Hammersmith Road, London W14 8UX

**Web:** [www.idealhomeshow.co.uk](http://www.idealhomeshow.co.uk)



## Chippendale International School of Furniture wins Best Business Award

The Chippendale International School of Furniture has been named winner of the prestigious 'Best Small to Medium Sized Business Award' at the 2014 Best Business Awards. The Chippendale International School in East Lothian is acknowledged as being one of the finest furniture design and restoration schools internationally and this year celebrates its 30th birthday.

Each year the school takes some 20 students from around the world for 30-week immersive courses, cramming three years of study into less than one year. This year's intake comes from the UK, Canada, USA, Italy, Trinidad and Tobago and Norway.

The school also offers incubation space on-site, so that graduating students can set up in business within the school and have access to ongoing advice and specialist help – a practical way to ensure that students make a successful transition into full-time self-employment. The school teaches age-old craftsmanship coupled with modern techniques and aims to unlock students' latent creativity. Former students can be found from Australia and Japan to the USA and Canada – and everywhere in between. The BBAs pride themselves on having a large panel of over 20 independent expert judges who select winners according to strict criteria for each category and sector.

The Best Business Awards judges said: "The Chippendale International School of Furniture has built up a global reputation and become the place to go for students from all over the world to learn about traditional and new methods of craftsmanship. What is interesting is that the not-for-profit organisation is funded by students' fees, making it totally self-sufficient. Any surplus is reinvested in the business. By focusing on a niche area of education, The Chippendale School has raised the profile of furniture design and enhanced the reputation of the UK as centre



Anselm Fraser lecturing at The Chippendale International School of Furniture

of excellence in woodwork and craftsmanship. The Best Business Awards are one of the UK's highest profile awards and winning this accolade speaks volumes about the quality of winning organisations. The winners of this award all have one thing in common – they are truly excellent at what they do and The Chippendale International School of Furniture has proved this by winning a Best Business Award."

Anselm Fraser, principal of the school, said: "On behalf of all of the teaching staff, we are delighted to have won this award. For the past 30 years we have worked hard to build the profile of the school internationally and are proud to have launched the careers of so many people."

For more information, see [www.chippendaleschool.com](http://www.chippendaleschool.com).

### ■ NATIONAL SCHOOL OF FURNITURE

## Buckinghamshire New University Furniture graduate leads project to enhance its artworks and décor

A Buckinghamshire New University Furniture graduate has been tasked with enhancing the artworks and décor at its campuses. Helen Dugdale, who has just completed a Master's degree in Art and Design Practice: Furniture Design at the University in High Wycombe, is leading a project to add extra colour and vibrancy to surroundings at the University.

The 25-year-old, from Norwich, who previously graduated in BA (Hons) Textiles and Surface Design from Bucks New University, said she was excited about the differences she could make. She said: "This is a great opportunity for me to use my research, focused on 'how spaces can affect an individual's wellbeing', within the University and to promote the work of our tutors and students to show visitors what Bucks has to offer. I hope this will

give the University further character and bring its spaces to life."

Helen is tackling a list of projects identified by students and staff and working with the University's Estates team to brighten up its campuses in High Wycombe and Uxbridge. Ian Plover, Deputy Vice Chancellor, said: "Helen has a really good eye for use of colour and texture, which we have seen from her excellent MA work. I am sure she will have a really positive impact on our surroundings, which will benefit both staff and students."

Helen and other MA Art and Design Practice: Furniture Design students also displayed their work at the Herman Miller National Design Centre at 61 Aldwych, London, WC2B 4A, from 27–29 January, 2015



Helen Dugdale, of Buckinghamshire New University, with a piece of work completed for her Master's Degree in Art and Design Practice: Furniture Design



## Philip Dobbins' latest piece

Philip Dobbins, a member of the Northern Contemporary Furniture Makers, has produced yet another astounding new piece in order to show his skills at exhibitions throughout 2015.

With Art Deco influences, the form of this 'cabinet-on-stand' relates to cabinets of curiosity or collectors' cabinets. As a whisky or drinks cabinet it can still serve the collector.

The whole cabinet is made in European burr walnut (*Juglans spp.*) with all four sides of the piece displaying book-matched panels. It is enhanced with boxwood (*Buxus sempervirens*) accents and delicate sabot feet also in boxwood. The sweeping ogee moulded top to the stand is reflected by the cove moulded top detail. The bespoke door handles are in bronze with inset peridot gemstones.

The three inner drawers are lined in oak (*Quercus spp.*) and there is a concealed drawer in the stand. The interior, lined in carefully matched walnut, is discretely lit with LED lighting.

For more information, see [www.dobbins.co.uk](http://www.dobbins.co.uk).



Philip Dobbins' drinks cabinet in European burr walnut



PHOTOGRAPHS COURTESY OF PHILIP DOBBINS

## Onwards and upwards for Warwickshire College furniture student

Furniture restorer Ben Field completed Level 3 furniture making at Warwickshire College and he also won a converted City and Guilds Medal for Excellence due to his outstanding approach to his coursework.

As a 15-year-old working Saturdays for an antique dealer, he perfected many woodworking techniques and gained valuable interpersonal skills when dealing with customers. He said: "I was motivated to work for myself after working for other furniture restorers and I felt I could do this and do it better. I restore all types of household furniture, mainly long case clocks,

fix tables, full makes and refinishing. I also specialise in marquetry and inlay, including Boulle work." The 19-year-old from Stratford-Upon-Avon also commented that he is finding it very satisfying in his chosen career.

Ben's main inspiration came after gaining work experience for renowned fine furniture maker Sean Feeney. Ben recalls how interesting this opportunity was and how it led to Sean mentoring him, including offering advice on techniques and the challenges of running a workshop.

Jamie Ward, Curriculum Leader Furniture Crafts commented that: "Ben

is showing really good business acumen and entrepreneurial skills for his age" and he is certain that Ben will be a 'name' to look out for in future.

Ben continues to support his college as he employs a current student and is about to offer another student work experience.

Royal Leamington Spa College – Warwickshire College Group – offers a whole range of full and part-time furniture making, wood machining and wood turning courses.

For further information see the website – [www.warwickshire.ac.uk](http://www.warwickshire.ac.uk) – or call 03004 560 049.



PHOTOGRAPHS COURTESY OF JAMIE WARD

Former student Ben Field

If you're a member of a collective and would like to raise your profile then submit a story to [teganf@thegmcgroup.com](mailto:teganf@thegmcgroup.com)



# Editor's round-up...

## Having trouble sourcing the right tool for the job? Derek Jones sets about identifying the essential tools and equipment on offer this month

*All sterling prices include VAT, correct at time of going to press*

I guess it's only natural as we learn from a succession of experiences, our wants and needs for our working environment change over time. For me it's come around a little sooner than I expected, so I'll be making a few changes to the way I store my hand tools. Now before you say "I know where he's going with this," this might surprise you. If I was starting from scratch, an Anarchist's Tool Chest would be top of my list and a Dutch chest, second, but the bottom line is, if I didn't have to cart around a ton of stuff every time I left the house, I don't think I'd miss it.

2015 is going to be the year when I say "no" to installations. Having relieved myself from this constant cycle of upheaval the objective is now to get a better system in place for workshop storage of hand tools and call it done. The first priority will be to get half a dozen backsaws where I can reach them easily and then go from there. Consider it a work in progress with no real end in sight and you start to get the picture. The only thing for certain is that there will be the odd stretch of beading here and there. See the mini test on the next spread for more details. Before that though, take a look at the mix of products we've found for you this month that are suitable for both 'shop based woodworkers and those who venture out a bit more.

### Veritas Shooting Sander

Producing a true square edge on very thin, friable material like veneer is difficult, especially when working with burrs that have to be edge jointed.

The Veritas Shooting Sander allows stock to be sanded square and to size instead of planing, thus reducing the risk of splintering or chipping on thin material, difficult grain, or even lacquered or painted mouldings.

The wooden knob is angled to allow the user to apply equal pressure to the sole and face. It can also be positioned at any point along the length of the sander.

Compatible with any shop-made shooting board sized for the shooting plane, each



PHOTOGRAPH BY GINO/DEREK JONES



sander has a 6mm-wide lip along the bottom of the face that keeps the sander from widening the shooting board track. The body is extruded aluminium with a black anodised finish. The sander is supplied with six 225mm long, 30mm wide strips of

PSA-backed aluminium oxide sandpaper; two each of 120, 180 and 220 grit with a zinc stearate coating. Further quantities can be purchased separately if required. Please note that this price is valid until 31 December, 2015.

## Makita Combo kits – new varieties available

From  
£680

Makita Combo kits are multiple tool packages sold as a single kit, with a view to offering value for money whilst providing a useful combination of tools. The two latest Combo kits also offer a variety of battery options from the Makita 18V Lithium-ion range, including 3.0Ah, 4.0Ah and the latest, long-running 5.0Ah batteries.



The new Makita DLX2040 2-tool Combo kit features the new DHP481 two-speed combi drill capable of punching a 16mm bit through masonry. Paired with the DTD129 18V impact driver they both feature brushless motors to achieve increased run time and compact design.

The next kit is the DLX2040 high torque brushless twin-pack kit, complete with DC18RC fast-charger in a robust MacPac case. The sixpiece Combo kit, DLX6017, includes a jigsaw, rotary hammer drill, combi drill, circular saw, impact driver, torch, fast charger and three 3.0Ah Lithium-ion batteries.

The DJV180 jigsaw has a 26mm stroke length and will cut up to 135mm timber. The DHR202 rotary hammer generates 2.0 joules of impact energy and can punch a 20mm hole in concrete while the DHP453 two-speed combi will drill

13mm in masonry, run up to 1,300rpm and generate up to 19,500 blows per minute. The DSS611 circular saw drives a 165mm diameter blade, which will cut to 57mm at 90°; the DTD146 impact driver generates 160Nm of torque and up to 3,200 impacts per minute. The powerful BML185 torch is included in this very useful Makita DLX6017 six-tool set. In any language, these kits represent a hefty investment and there's likely to be some variation in the pricing between dealers.

## MINI TEST: UJK Technology metric threaded guidebushes

Threaded, or American style, guidebushes have not been too common in the UK but Axminster Tools & Machinery now sell the UJK Technology metric set comprising 10, 12, 14, 16, 18, 20 and 30mm diameter bushes. Made in a brass alloy and supplied in a heavy-duty blow-moulded plastic case with foam insert, the bushes are amazing quality for the price. Also included in the case are illustrations of guide sizes and dimensions. The

photo below shows the bushes with an example of the Leigh adaptor also sold by Axminster, in this case for a Festool OF1400 router. The advantage of threaded bushes can be better security and accuracy when compared with screwed or clip-in bush systems used on many European routers. A further bonus is they will fit an adaptor insert if you have a UJK router table insert, so making template routing easy without using bearing-guided cutters.



£29.94

## Woodjoy flat-soled adjustable spokeshave

These professional spokeshaves from American company Woodjoy have an innovative micro-adjust hex key blade adjustment – the quickest way to fine-tune a spokeshave. There are no threaded posts or tangs on the blade; a benefit you will appreciate when it comes to sharpening. The hex key has a notable advantage over hand tightening the blade in that it only takes a tweak to lock the blade securely in place. The 3mm-thick brass sole is longer than the mouth opening allowing the fixing screws to be sited outside the cutting path of the shave giving an uninterrupted smooth contact with the workpiece. A touch of candle wax on the brass makes it glide a lot better.

The spokeshave has a durable and attractive maple (*Acer campestre*) body. Extra thick A2 steel blades round off the high quality built into this performance range of spokeshaves. The flat-soled spokeshave is a great all-rounder and is one of Woodjoy's most popular products.

Although contoured nicely around the grips a little bespoke tweaking makes them even more enjoyable to use.



£81





## Spring into summer with Liberon

Spring will be here before we know it. Time to clear the leaves, plant your bulbs and get your garden furniture ready.

Before treatment, all traces of dirt, mildew and grime need to be removed from the wood. Liberon Garden Furniture Cleaner prepares all types of wood while helping to prevent fungal regrowth. Just add two capfuls of cleaner to a bucket of warm water and apply using a scrubbing brush for the best results and then allow to dry for 24 hours.

The next step is to apply Liberon Garden Furniture Oil. It feeds, seals, nourishes and protects, plus with its added UV filters it

helps protect the timber from discolouration. The oil will bring out the natural beauty of the wood and make it water resistant too. Now that the furniture is looking beautiful it will put your decking to shame. So, treat your decking to some TLC with Liberon Decking Oil. This highly effective oil is UV advanced and suitable for most types of decking. It is water and UV resistant so even if your decking is newly laid this treatment will feed, protect and seal the wood, keeping it looking new for longer.

There are different recommendations for the treatment of soft and hardwood decking.

Softwood will absorb the oil so once applied reapply after just 15-30 minutes. If you are oiling hardwood, best results will be achieved if following each application and wiping any excess off thoroughly. If the hardwood decking is new, it is recommended to leave the wood untreated for a year to allow the grain to open and absorb the oil better.

For more information on how to apply these products correctly and to see the full range of products, check out Liberon's YouTube channel: [www.youtube.com/user/LiberonProducts](http://www.youtube.com/user/LiberonProducts).

## Axminster Trade Series XP380s extractor

This 'L' Class XP380s extractor has been designed to be a tough, no-nonsense machine for extracting dust from hand-held power tools.

The power head is made from drawn steel, which is then epoxy coated and houses the highly efficient TwinFlo motor. Sound deadening keeps the noise very low and a plug-in replaceable power cable is fitted as standard. The integral PCB provides power to the external socket and powers up the vacuum motor once you turn on your power tool. Auto shut-off after you turn off your power tool keeps the hoses clear. A selection switch for manual use is also fitted.

The container of the extractor is equally

strong, being made from Numatic's own Structafoam material. The Tritexfilter system traps 99% of dust down to 0.5 microns in size. HepaFlo bags are recommended for use to ensure safe waste disposal.

A set of castors allows easy movement around the workplace and a big grab handle gives a comfortable grip when lifting.



£419.95



The kit includes a 3m hose with clips to hold your power tool cable, a stepped rubber adaptor, an alloy floor wand and a 300mm floor tool.

A further upgrade to 'M' Class filtration can be made by fitting the optional HEPA filter module. This simply clips into place between the power head and container. The Tritex filters must be used as well. This will give the best possible filtration and satisfies the HSE's recommendations. Please note that this price is valid until 31 December, 2015.

## Rockler large box spline jig

Rockler Woodworking and Hardware has introduced the large box spline jig, a device that allows users to create decorative splines which provide extra strength to the joint. The jig is easily clamped to mitred box joints in order to cut slots for a wide variety of decorative splines with a hand-held router. This is particularly useful for large boxes that are difficult to handle on a router table. Once the jig is clamped to the corner of the box, the jig faces support the base of the router as it is pushed to cut the spline slots. The user can then add their choice of splines, to create a range of decorative elements.

The jig is made of durable plastic and features an edge guide that is adjustable to accommodate a variety of different routers.

Each machine can therefore be centred for the spline cuts.

A variety of spline patterns can be achieved, depending on the style of router bit used. Large clamping surfaces on each end make it easy to secure the large box spline jig to the box either by clamping cauls to the jig or by clamping the jig directly to the box. The jig also features a useful hang hole for easy storage on a hook or peg when the jig is not in use.



## MINI TEST: Caleb James beading plane

When you've done sifting through rounds and hollows at the flea market that look as if they might be worth tinkering with, try your hand at refurbishing a beading plane. If you do and you're successful, then you'll discover just how complex these tools are. Like a lot of things, they don't look that difficult to make until you try and use one that's slightly off.

I've had a few fixer-uppers in the past and they've served me well but I recently discovered Caleb James and, shortly after, one of his planes. This  $\frac{3}{16}$ in will set you back somewhere in the region of £200 by the time you've imported it from the US, which let's be honest, isn't cheap. But when you consider that Caleb is one of a handful of people on the planet prepared to offer these tools, then you might consider them an investment.

That aside, first and foremost you want a plane that works well for that kind of money and I can assure you it does, straight out of the wrapper. It performs so well in fact that there is very little to say other than you plan for a  $\frac{3}{16}$ in bead, you pull out your  $\frac{3}{16}$ in bead plane, make four, maybe five, passes and it's all over. So slick is the transformation from a square edge to decorative detail, you'd almost think there'd be some kind of witchcraft involved. If you can produce a tool that turns even the most inept woodworker into an expert in under 60 seconds, that's just dynamite.

Caleb's planes are made from genuine quartersawn beech (*Fagus spp.*) with the traditional facets and chamfers of a 19th-century moulder but with an 18th-century bubble head wedge. The integral side wall means you just offer the plane up to the start of the board and push. No need to scribe a line for the point to follow on softwoods. If you plan to buy one wooden moulding plane in your career, then make it a beading plane and if you can justify the expense, make it a new one from Caleb James. *F&C*



## Contacts

### Axminster Trade Series XP380s extractor

Contact: Axminster Tools & Machinery  
Tel: 03332 406 406  
Web: [www.axminster.co.uk](http://www.axminster.co.uk)

### Caleb James beading plane

Contact: Caleb James  
Email: [calebjames@me.com](mailto:calebjames@me.com)  
Web: [www.calebjamesplanemaker.com](http://www.calebjamesplanemaker.com)

### Makita Combo kits – new varieties available

Contact: Makita  
Tel: 01908 211 678  
Web: [www.makita.co.uk](http://www.makita.co.uk)

### Rockler large box spline jig

Contact: Rockler Woodworking and Hardware  
Tel: (001) 800 279 4441  
Web: [www.rockler.com](http://www.rockler.com)

### Spring into summer with Liberon

Contact: Liberon  
Tel: 01797 367 555  
Web: [www.woodcareexpert.co.uk](http://www.woodcareexpert.co.uk)

### UJK Technology metric threaded guidebushes

Contact: Axminster Tools & Machinery  
Tel: 03332 406 406  
Web: [www.axminster.co.uk](http://www.axminster.co.uk)

### Veritas Shooting Sander

Contact: BriMarc Tools & Machinery  
Tel: 03332 406 967  
Web: [www.brimarc.com](http://www.brimarc.com)

### Woodjoy flat-soled adjustable spokeshave

Contact: Classic Hand Tools  
Tel: 01473 784 983  
Web: [www.classichandtools.com](http://www.classichandtools.com)





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PHOTOGRAPHS BY DARREN OATES, UNLESS OTHERWISE STATED

# In the workshop with Darren Oates

We meet the maker who brings curved laminations and bent woods into line





This month we talk to Australian furniture maker, Darren Oates. Working almost exclusively with native timbers he produces stunning pieces that combine curved lamination and bending techniques for repeatable success. Darren tells us that he has been working full-time as a furniture maker since graduating from the Sturt School for Wood in 2007. With his pieces on display in every major gallery in New South Wales, and two solo exhibitions in 2012 alone – ‘Heartwood’ and ‘Reclamation’ – he is kept busy with both these and commissioned pieces.

### The beginning

Darren Oates's early career gave no hint of his talent for design. It was a leap into the world of furniture, but not entirely of faith. He discharged from the Royal Australian Air Force in January 2007, after 20 years' service, to undertake full-time studies in Fine Furniture Making & Design at Sturt School For Wood in Mittagong, New South Wales.

Prior to this he studied part-time under Terry Gleeson at Terry's School of Woodwork in Sydney. Darren tells us: "Terry is amazing, with a woodworking knowledge that seems to know no boundaries. Terry taught me my initial hand woodworking skills. It was after lessons from Terry that I knew this was what I wanted to do full-time, so I applied to Sturt and was accepted."

Darren spent all of 2007 studying under the late Tom Harrington and absorbed every ounce of information on every aspect of designing and making fine furniture that he could. He explains that it was Tom who brought out the designer in him, with Tom's knowledge of woodworking and design limitless and his enthusiasm the same: "There was no problem that could not be solved, no matter how big the mistake you made. Tom knew that I wanted to make a career of this so it was he who suggested that I put my completed pieces in the nearby Sturt Gallery. I still remember the amazement of my first sale and from there I was hooked."

So, after that first sale, every piece Darren made went straight to the gallery. During his time at the Sturt School on weekends, Darren was setting up his new studio and purchasing machines under the guidance of Tom and timber from auctions.

During that year Darren sold most of the pieces he completed through the Sturt Gallery, and he left with several commissions underway. He bought a factory unit and set up shop in Windsor, on the outskirts of Sydney, and within half a year his work was in every major gallery in New South Wales. Darren has been working full-time ever since.

### Awards and notable pieces

In 2009 Darren entered his 'Parabolae' writing table into a competition held by *Australian Wood Review* magazine and was awarded the runner-up prize of \$1,000 worth of timber. This win opened a door for Darren,



'Parabolae' writing table  
in blackheart sassafrass

as he was asked to write for the magazine and now contributes both feature articles and tool reviews. This also gave Darren the opportunity to meet other well-known makers throughout Australia: "People I used to read about and admire," he comments.

Darren's 'Parabolae' hall tables remain his favourite pieces, closely followed by his 'Parabolae' writing and coffee tables. And he is not the only one for whom they hold an appeal – together, these three pieces account for about 20% of Darren's output. He came up with the design while at Sturt and perfected it in his studio. The table he entered in the Studio Furniture 2010 exhibition received a high commendation from the judges and, to date, he has sold 59 of the hall tables alone.

To celebrate the significant number, Darren made number 50 from rare timbers: two-tone New South Wales coachwood (*Ceratopetalum apetalum*) for the top, fiddleback Tasmanian oak (*Eucalyptus regnans*) for the legs, Tasmanian blackheart sassafrass (*Atherosperma moschatum*) for the inlaid circles, and southern silky oak (*Grevillea robusta*) for the inlaid lines. All of Darren's 'Parabolae' tables are individually numbered by laser etching on the underside of the tabletop.

Darren told us that thanks to the popularity of the 'Parabolae' table, he now has about a dozen jigs to help him make it and can "almost make them in my sleep." Darren goes on to tell us: "I can now make these in a remarkably short time and I find it a nice break after making complicated commission work to go back and make one of these tables; they are almost like a comfort food for me."

### Design ethos

Darren is pragmatic, though not utilitarian, in his approach to furniture design. He

considers both form and function to be vital. From a personal perspective, he doesn't see any point in investing the amount of time he takes in making a piece if it can't be used by its new owners. At the same time, he recognises that "form has to come into play or the piece won't attract a buyer in the first place."

He believes in traditional joinery, but is not a purist: "If I can make an extremely strong joint using a jig or machine, then that is what I will do. People are purchasing my furniture because of its design, not because it has hand-cut dovetails."

Responsible timber sourcing is also important to Darren. Most of his pieces are made from reclaimed Australian native timbers: Australian red cedar, mackay cedar, spotted gum, northern and southern silky oaks, Victorian ash, Queensland walnut, New South Wales and Tasmanian blackwood, Tasmanian blackheart sassafrass and silver ash, to name a few. "These are trees that have been cut down to make way for developments – usually housing estates, roads and highways, industrial and commercial sites. Most of this timber is destroyed but there are a few people around with portable timber mills who harvest these beautiful trees, which allows me, hopefully, to make beautiful furniture with it. When I am not using this, I try to use FSC-accredited timber," he explains.

Darren is also a great believer in using veneers: "I believe these to be a very sustainable use of a harder to get commodity. Some of my veneers are nearly impossible to get now and the only reason I have them is that someone in the past was wise enough to turn these trees into veneers rather than solid timber." One example of veneer that Darren got hold of was Australian red cedar. These sheets came from a 300-year-old listed tree, which came down ➤





► in a storm in in Brisbane, Queensland, 30 years ago. This timber at this age is nearly extinct in Australia and if it had been cut up into solid lumber, it would have all been used years ago, and only on a limited amount of furniture and only to the very wealthiest of buyers. Darren says it's thanks to this tree being veneered that many people can purchase a piece made from this beautiful timber.

### Signature style

When asked about his signature style, Darren comments that he can't really say that he has been influenced by any particular design or designers – at least not consciously – but he does have designers whose works he loves, admires and wants to see 'in the flesh' one day: "Among these I would include Charles Rennie Mackintosh, Greene & Greene, Frank Lloyd Wright, Carlo Mollino and George Gavaric."

Darren uses curved laminations extensively and bent timber plays a large part in his designs. Darren says that he tries to keep the lines in his furniture as simple as possible while still using curved pieces. He considers this a strong point in his work, and it is a recognisable feature of his furniture. In 2012 he was asked to teach wood-bending techniques at the Sturt school and jumped at the opportunity: "I got to live out my dream of teaching fine furniture making to eager students," he tells us.

Darren has since taught for three months a year at Sturt, always instructing the bending phase and various other subjects changing from year to year. It always amazes him that from 12 students, he will get 12 completely different designers and he finds that these three months are the most enjoyable he has all year: "As woodworking is a very solitary profession, so to get out and be working



Credenza in spotted gum and Queensland walnut



Side table in Queensland walnut and silky oak



Collector's cabinet in Australian red cedar, silky oak and Tasmanian oak

among other people again is a nice break." Going back to discussing his timber choices, Darren tells us that he uses mostly beautiful timbers, which don't need a complicated design to grab a potential buyer's attention. He says: "I don't use super complicated joinery as it is the end design that I am striving for, as this is what my clients are after, not if the piece has hidden mitred dovetails or such. With one exception my clients are not woodworkers and so are only interested in the final piece and not how it got there, so if machines can be used in any way I will use them. I have never once been asked to make a piece using only hand tools or traditional

methods." Darren's favourite times for furniture are the Arts & Crafts period and the '50s and '60s Scandinavian furniture. He explains: "I believe that a lot of furniture that came out of the Arts & Crafts is timeless and pieces from the Greene brothers are among my favourites. One of my dreams is to go to Pasadena, California to view the Gamble House, which was designed by these brothers. Their furniture has a solidity to it that makes you believe it will be standing a thousand years from now while not being heavy and awkward looking and with the Oriental influences that are immediately apparent, these are designs that stand alone." Darren tells us he believes





**Darren gluing up some veneers in his workshop**

the Scandinavian furniture that came out of the '50s and '60s looks like it was designed yesterday. The chairs that came from this period are what get his attention. Designs from such people as Hans J Wegner will be purchased by discerning buyers for decades to come as they look great in any modern house. "I would say that his use of pattern and grain is equally successful and strong. To me his fluid curves provide the perfect balance to the patterns in grain that he emphasises through the bold frames and shapes in his designs."



**Pulpit in red cedar, mackay cedar and silky oak, 1,500mm high x 600mm wide x 1,600 deep**



**Games table and chairs in fiddleback camphor laurel, Queensland walnut and Tasmanian myrtle**

### **The future**

Darren is currently halfway through a large commission to replace the furniture for a church in the Blue Mountains west of Sydney. There is still a fair amount of work to do for Darren and it has been quite a challenge. But, he has been told that his furniture will be there for at least a century, so the designs really have to be sorted and the furniture has to be made to stand the test of time. Meanwhile, the furniture maker is always striving to design new pieces that will hopefully be antiques for the 22nd century. ➤





Jewellery chest in sheoak



'Mackay' chairs in Mackay cedar and leather

## Maker's maker – Charles-Édouard Jeanneret-Gris: Le Corbusier



Le Corbusier's chaise lounge

PHOTOGRAPH COURTESY OF VIVA INTERIORS

*"I remember the first time I saw the 'LC-4' Chaise Lounge in Stereophile magazine in the late 1980s and just wanting one. I had never seen a piece of furniture that was so striking, and it seemed to me that you could spend hours lying in this chair listening very comfortably to your favourite piece of music. Then I found out how much they cost and that was the end of that dream."*

*It wasn't until several years later that I discovered this amazing icon of the furniture world was designed in 1929. If you were unaware of the existence of this chair and happened to see one in a department store, you would assume it was a piece of furniture designed last year. To this day I can say that the 'LC-4' is one of my favourite pieces of furniture. It will never age,*

*like many of Le Corbusier's buildings.*

*Villa Savoye, built in 1931 on the outskirts of Paris, is a great example. This building must have amazed and shocked when it was built. While Le Corbusier never designed timber furniture, I believe that he would have had an influence on designers years after his death. My ambition is for my furniture to be as timeless as his lounges."* **F&C**

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# Inversion wall sculpture



PHOTOGRAPHS BY STEPHEN HOGBIN

A variation of the piece made in this article

**Stephen Hogbin discusses the various possibilities for making a sculptural piece, using individual strips which are re-glued together**

Furniture makers often start with the furniture function and its structure and then decide how it might be decorated. 'Inversion' is about inverting the process and how to think about furniture. Pattern making becomes a fluid set of possibilities as there is always many variations within the pattern. The crutch of fixed rules gives way to endless variations; this is scary for some and a delight for others. In combination, structure and pattern trumps just about anything in furniture making. In this article the emphasis is on patterns of thinking, which will lead to structural variations.



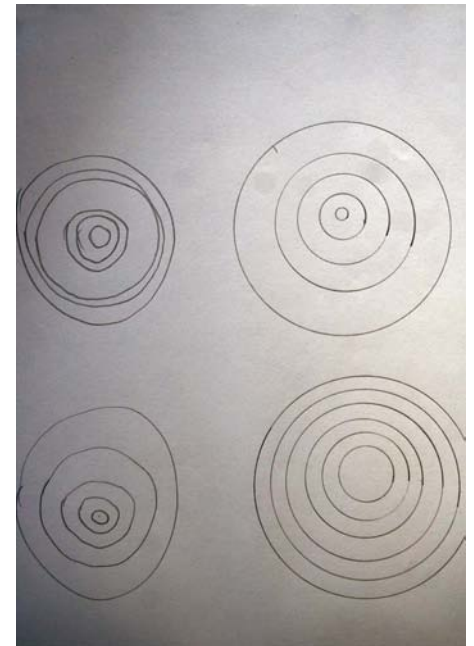
## Reworking an idea

In 2013, I had an exhibition in a bookshop and this piece was on the invitation. I have worked with the idea of turning a plate and cutting it up to then reassemble in a new order for many years. Pattern from process is an idea that I return to throughout my time as a maker. There are unlimited variations that I have worked with and others have come up with quite different ideas using the same procedure. Another aspect to this work is the idea that once something has been made it can then be reworked, manipulated and reassembled into a new object.

When I start thinking about a design, it helps to make drawings. Even when I have a model or example to work from the drawing gets me into the mood, zone or frame of mind. As the athlete limbers up, so does the designer. The drawing may be freehand or measured. Freehand does help mind-hand coordination. A measured drawing will lead towards accuracy. It is about emotions and intellect bringing together: self, subject, object and context.



Another variation of the piece made in this article



My initial sketches for the project

## Assembling the strips

The pith runs through the length of the board of black cherry (*Prunus serotina*). This is of no use to a cabinetmaker but with careful cutting is valuable to a stingy turner. The reaction wood surrounding the pith at the centre must be removed. Cherry is a great turning wood and takes a finish well.

The strips could be cut all the same width but I would lose material. It depends on the design of the panel and, in this case, just what the rather rough board demands. How will it be used is also a consideration. What pattern might work best for the circumstances? In this piece, the strips will be cut to maximise the good wood. There is a progression of dimensions in the design from which I am working. The thinnest strips are on the inside and the thickest on the outside. These will – probably – be reversed in the finished panel. Before that decision is

made the individual strips will be shuffled into different relationships to see what happens to the pattern, but more on that later.

Lay the strips out looking at the widths, which will be in a mirror pattern about the centreline. Also observe the grain pattern. I noticed the flame grain earlier and tried to keep that for the exposed wood. Selecting the wood is invariably a compromise but it's worth the extra time to imagine the final piece and where each strip is best presented. Place the strips in the clamps and make sure it's all square. A diagonal line is drawn from corner to corner; this is a guide when gluing up and better than getting glue on the framing square.

The rule of thumb is to only glue two pieces of wood together at a time. More than that and it becomes exponentially more difficult with every piece added. A rub joint

slides wantonly around but it's not a good idea to add joinery that may show in the finished piece. Apply the glue with a brush on both surfaces. This time I went for three at a time. Later the strips will be cut apart on the tablesaw along the glue line. An inexpensive PVA was used and the joints were not perfect. The cauls are really important to keep everything aligned and flat. The joint may be imperfect but the panel must be flatter than flat for the turning.

Overnight and over the weekend the panel was gently clamped in the cauls to prevent wood movement. Cupping and twisting of the panel will make the turning very difficult.

Remove the panel from the clamps, mark out the centre and drill a small hole for an awl or even better, a finishing nail. This will help alignment to the centre of the false faceplate.



Cherry was used for this project



The strips all lined up – maximised to use the good wood



Lay the strips out looking at the widths which will be in a mirror pattern about the centreline



Gluing the strips together, two at a time



The panel was gently clamped in the cauls to prevent wood movement



Mark out the centre and drill a small hole for an awl or a finishing nail

## Making the false faceplate

The false faceplate is made from 19mm plywood. Find a piece that is as flat as possible. Fresh from the timber yard is usually best as I find my plywood in storage has stood on end, developing a gentle curve one way or another. The plywood should preferably be bigger than the square panel. It's a safety measure from the square corners on the lathe whipping around catching clothing and body parts. The corners are very nasty and need lots of respect. The big disc offers some protection. Also ensure to keep the disc for another panel. Bigger, on this occasion, is better for the faceplate.

The panel may be fixed to the faceplate in a couple of ways: the fastest way is to pump in screws from the back where the turning will not clip the screws; the best way is to centre the panel on the disc and then hold it on with cleats. The cleats used here are made from softwood and represent a minimal solution. If the strips are longer, then greater support is achieved. I used three screws for each strip. If one screw fails, then there are still two screws holding that side of the panel. The cleats are rounded on the corners to avoid having clothing or body parts from

engaging as the work rotates at high speed.

The next step is marking out the design for the panel. What catches the light are deep grooves and high points. Shadow and highlights are what helps to read the design. The lighter colour woods show better than dark woods. Adding paint and colour will also offer some striking results. My work often represents water: the stone dropping into water creates ripples of concentric circles, which develop in a consistent progression. That's the idea informing the work. That concept now has to fit with the size, space and strips of wood. The variable widths of each strip were on a progression of sizes. As I mark out the peaks these are best to be in the centre of the strip rather than on a joint. After making a few of these panels, it will become easier to work all these things together to fit your own aesthetic interests. The progression of concentric circles started with a measurable size and then the next circle had 6mm added to each new dimension. Experiment on paper first – preferably in a sketchbook – so that when you come back to the idea again, there is a record of what happened last time.

Before turning on the lathe, make sure it's on a low speed. If not balanced, a large turning could flip the lathe. If the cleats are not correctly secured to the panel, then it could fly off. Be cautious and always start slow.

The surface of the panel is turned, in this instance with large gentle grooves and pointy peaks that relate to the drawn circles. A scraping chisel with a round nose cuts the grooves. A sharp peak is inclined to break where there is short grain. Beads are better and more likely to not chip out. Tiny grooves are difficult to clean up with abrasives. Because I paint the work, I do not necessarily sand the surface. More on surface treatment later.

The next step is to measure the depth. The depth of the groove relates to its width. A 22mm-thick board needs enough structural integrity retained when it's all taken apart. A narrow groove does not need to be so deep. I cut in 13mm on the largest groove. Ultimately the depth is how well it looks rather than preconceived or abstract dimensions. Shine a light on the surface to see the highlights and shadows. In perfect lighting, it looks great but will it always be in perfectly lit circumstances?



Use a piece of 19mm plywood for the false faceplate – use a piece that is as flat as possible



Marking out the design for the panel



Turning the surface of the panel with large gentle grooves and pointy peaks



Measuring the depth of the grooves



## Adding colour

Colour is an important part of my practice. It takes an object from being too woody or wooden looking into another dimension. This is not necessarily better, it just adds a different aesthetic. Depending on what I am trying to achieve, I will use artists' acrylics or more recently, translucent pigments. On this occasion, an undercoat is applied being careful to rub the paint into the textured surface. When it has dried, a light sanding removes the fibres standing up and accentuates the turning marks from the chisel. The wood shows through. The colour of the wood will be an important contrast to the colour used. The warm colour of the cherry wood will be contrasted with blues and greens. They will be close to complementary colours and make the surface lively and active.

Paint on the colour loosely. These surfaces are about a relaxed elegance and not about total control. In nature, it's seldom a solid colour but rather a texture of colours. Growth of an organism reveals the struggle to life. The surfaces are not an attempt to copy nature but rather to be inspired by the qualities found in nature. I will probably paint a minimum of three thin layers of colour. If the surface is not coherent, then give it a gentle rub with abrasives to bring back the wood and undercoat, while leaving blue as the main colour.

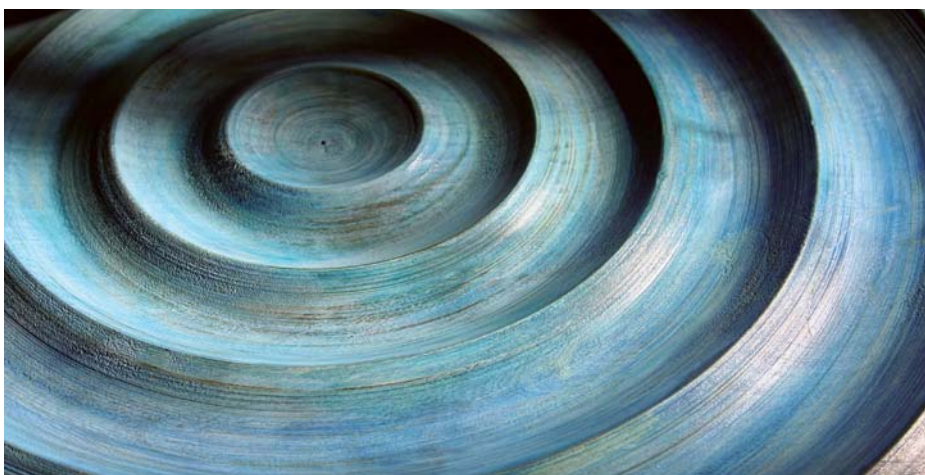
Perfection for me reveals how it was made rather than how it was controlled. Some areas demand a controlled finish and others, in contrast, reveal the process. It is the raw and the cooked in balance. I like potatoes cooked but not salad. Getting that relationship right is difficult and ultimately very rewarding for me.



Adding an undercoat before the colour is applied



Blue is the main colour used with a minimum of three layers



A variation of the piece made in this article

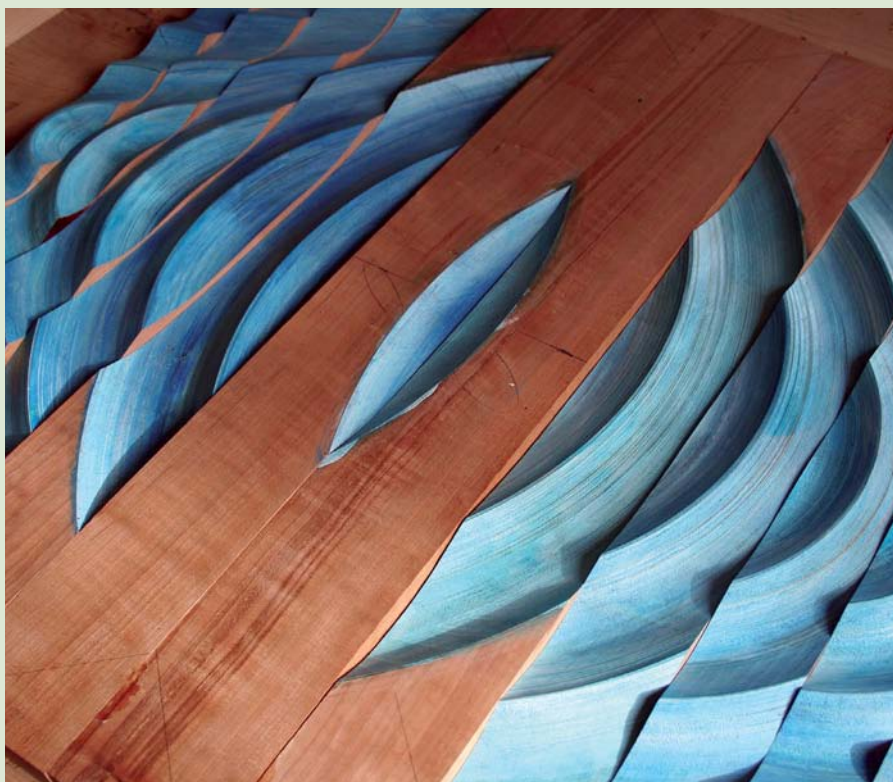
## Cutting the strips

*The first cut is exactly in the middle of the turned circle. It removes the first glue line. The face of the cut may be left at this point so long as it's not got deep saw marks. This is a true surface from which to make the next cut. Eventually the edge will be cleaned up with abrasives.*

*As the strips are cut set them off to one side in order. It may help to number the end of the strips although if the pattern is strong enough it can be easily found.*



Making the first cut in the middle of the turned circle



As the strips are cut, set them off to one side in order



## Other variations

The series of photos here represents some of the variations to be found in the panel. Record all the different arrangements because it's easy to forget where you went or where you might go if there is no record. There are word associations, such as: 'How many ways can the parts be shuffled'. Inverted, reordered, face to face, every other, on end or on edge – these are some word plays that may help. These descriptive words help lead towards making cupboard doors, screens, containers and so on. Some of the cupboard doors may become a tambour but that would require a rethink about the width of individual strips. Do the strips need to be cut thinner?

I tend to think in series. The first group is

based on a particular way of arranging the parts, then I thought the panel could become more three dimensional.

While I was thinking 'what else can I do?', the subtle shift of the sticks revealed a slither of the wood to show through the paint. Subtle and sensitive in the right situation. There could have been many variations. The next group looked at placing the two halves together. The final piece shifted the sticks looking for visual connections to harmonise the design. The circle develops the shape of a gourd hanging in space with the tension of gravity pulling the shape into an ovoid.

The variations look at the surface tension created by the different arrangements. The

ripples on a pond from the stone drop go out in a flow of reducing tension. In some of the patterns, the tension sometimes flows and in others it's jarring, conflicted or an agitated pattern. Are you working with a symphony, jazz band or the screech of a night owl?

There are many variations from the thickness of the board, the width of the strips, size of the grooves, number of colours and final arrangement of the strips. The elements or strips of wood are like an alphabet that, when placed in a new order, creates different words and associations. Then, how might one of these designs be used in a functioning piece of furniture? With so many variations, the fundamental question becomes, 'what constitutes a good idea?'



Group 1 – a particular way of arranging the parts



Group 2 – a more three-dimensional idea



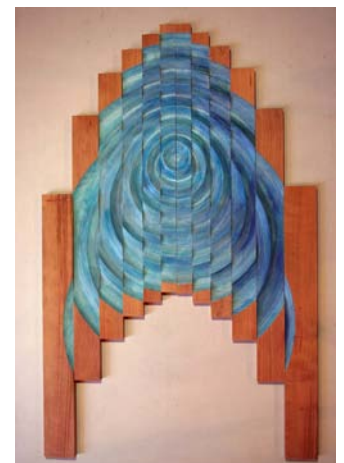
A subtle shift of the sticks allows a slither of the wood to show through the paint



Group 3 – placing the two halves together



The circle develops the shape of a gourd hanging in space with the tension of gravity pulling the shape into an ovoid





## Mounting the piece

Mounting the work becomes an important issue to solve. If it's to hang on the wall, then it's less critical than in a piece of furniture. Gluing the strips together will form a panel. In this case, it's about 610mm wide. That much solid wood wants to shrink and expand. It won't make a good door. Mounting the strips individually on lipped plywood will give the necessary support. It may become a heavy door. Two batons on the back will lighten the door. A frame with a groove or rebate on the inside edge accepts the strips – a more traditional answer for the issue of hinging. A sliding door with the strips mounted on a thinner 6mm plywood is an easy solution. Thinner still is a canvas backing for the individually glued strips to retain some flexibility for a tambour door.

For this piece, the backing was made using a 6mm recycled plywood glued into the frame. Brass screws held each strip individually so they can shrink and expand. The frame and

the strips fit exactly. For a wall-hung work, I would usually make the backing smaller than the panel so it appears to float from the wall, but for this piece, I was thinking more about furniture and how it may fit to a carcass or indeed become the side for a carcass. It would also work well for a fireplace screen.

A hanging bar is glued in place and is the most secure fitting for a heavier panel. It is better to put the hanging bar on with screws from the front before attaching the strips from the other side.

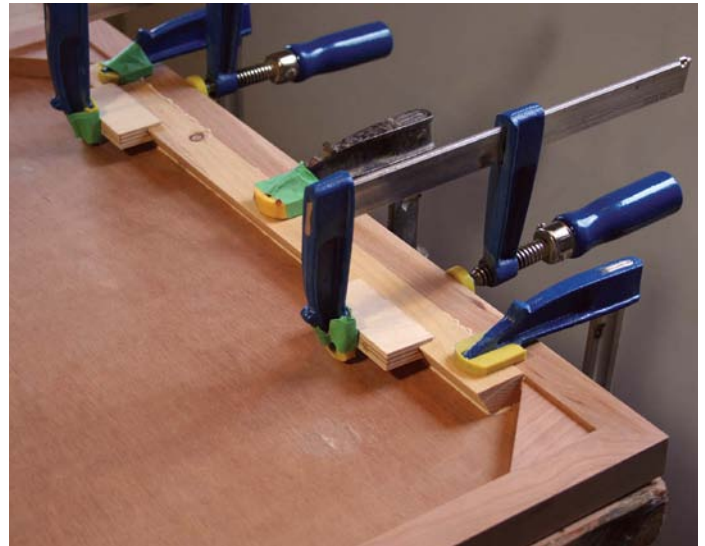
The finished piece is different to the first one made in 2013. The strips are heavier making the design stronger but I miss some of the delicacy in the first piece. The wider boards are on the outside. If hinges were required then there is the necessary material for fixing the hinge. An additional strip using a deeper blue is on the centreline; it attracts the eye to the centre of the panel. The second solution is self-contained almost

framed through the heavier strips on the outside and the fine line at the centre. The surface tensions change but structurally it offers other possibilities.

The jig shown here will hold strips that are then turned. The strips of the panel are not glued together. After the turning there is no loss of material from cutting up the panel. Usually all the strips will be the same size and pre-finished. A progression of widths can also be placed in the jig. The disadvantage of strips rather than a glued-up panel is the tendency for the edges of the strips to break away in the turning process. The strips need to be tightly packed to reduce the broken edge. In my book *Hogbin on Woodturning* there is a full explanation for using the jig. It also includes how to use an internal template to produce an accurate profile. It is more complex to use the jig but it does deliver alternatives, such as rotating or inverting the strips and then returning. *F&C*



Use a piece of 19mm plywood for the false faceplate – use a piece that is as flat as possible



Gluing the hanging bar in place



Compared to the original piece, the strips are heavier in the new piece



The jig for holding the strips that are then turned



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# JAPANESE JOINTS

## – part 2

In this second part of the series, John Bullar looks at some variations on a simple plug and socket and explains the technical reasoning behind more complex joints

Previously we looked at some Japanese tools and how they differ in their construction and use from their western equivalents. Now we will look at Japanese joints, starting with some unusual takes on the most basic of classic joints – the hira-hozo or mortise and tenon.

The mortise and tenon is used in Japan in much the same way as throughout the rest of the world but with many variations, some subtle and some very different.

We start by looking at some variations on a simple plug and socket join. I will explain the technical reasoning along the way as we work up to something more complex but still highly practical. In the photos illustrating these sequences of operations, I have sawn several of the sockets open to show their inner shapes.



### Constricted through-mortise

The first joint, a mortise that is squeezed in the middle, is known as a 'tsuzumi' after the Japanese drum of a similar shape.

These joints would traditionally be used in making shoji – sliding doors and fusuma – framed translucent paper room-dividers, for example. The frames would typically be made from softwood, held together with nori – rice glue – and finished with lacquer.

The ends of the socket forming the through-mortise are each made slightly convex so they constrict or pinch the parallel-sided tenon in the middle; this makes the joint tight to assemble. To help with this the tenon is sawn with a chamfered end, which helps lead it into the narrowing mortise. The protruding end of the tenon will be sawn off flush once the joint has been assembled and the glue dried.

Traditional water-based nori rice paste helps lubricate this tight plug and socket joint during assembly and also swells the compressed end of the tenon as the water is absorbed into the wood fibres. PVA-based woodworking adhesives have a similar quality and the waterproof versions are even better lubricants as well as being more durable.

In marking out the joint, a Japanese kebiki dai mortise gauge can be used to mark both sides of a mortise at once and come in various designs. The traditional gauge, rather than having independently adjustable marking pins, is fixed at a standard spacing between pins corresponding to the standard width of a chisel used to chop out mortises. For a different width of chisel, you replace the stem of the gauge with one having differently spaced pins.

The traditional way to hollow the mortise is to start from the centre and make a series of shallow chops, each about two or three millimetres from the last, moving towards the ends of the socket.

At this stage, the chisel's bevel is angled away from the centre so chips can be removed by rocking the chisel back on its bevel. This rocking action will of course compress the wood ahead of the cut, so it is essential to stop before the end of the socket and turn the chisel around.

The last couple of chops at each end of the mortise are made with the straight back of the chisel. Leave half a millimetre at the end for final paring once the socket is full depth. To create the convex ends to the mortise, the chisel is tilted away from the centre so the socket ends slope inwards.

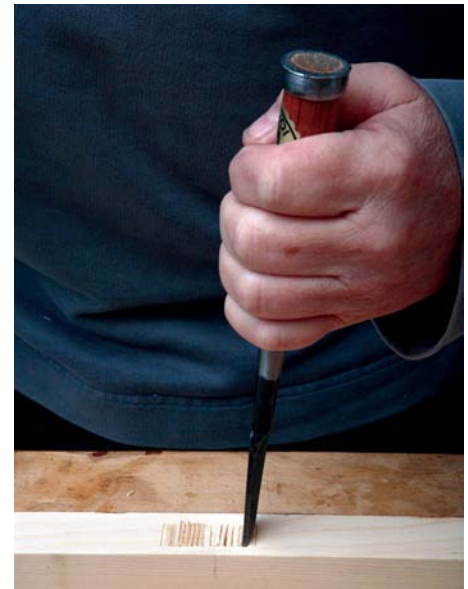
The wood is turned over to chop the exit side of the mortise, with the two halves of the socket meeting in the middle. The same slanting action used from both sides results in a mortise that narrows in the middle.

The inner walls are then pared into gentle convex curves that will pinch the tenon as it passes through and grip it firmly.

Using the compression of wood fibres to make a tight joint works well with softwoods but the same technique is of limited use in hardwoods where the compression and spring-back across the grain are less.



The width of the chisel matches the spacing between the two pins of the kebiki dai mortise gauge



Chopping a mortise, starting from the centre moving outwards, the oire nomi chisel's bevel is angled away from the centre



Each end of the mortise is chopped with the straight back of the chisel. Note the chisel is tilted away from the centre so the mortise ends slope inwards



This through-mortise has been sawn open to reveal its inner shape. It narrows towards the middle while the tenon has a chamfered end to ease it into the mortise



Once inserted in the mortise, the middle of the tenon is squeezed tightly in place



## Split-through mortise

A wedged through-tenon can be used for hardwood to lock the joint in place. In sage-kama joints the wedge is inserted in the mortise alongside the tenon whereas the wari-kusabi or split through-tenon – shown here – has wedges inserted in slots cut into the ends of the tenon. As with the softwood joint on the previous page, the mortise sides are slightly flared out at the exit so the wedges lock the tenon in place.

Wedged joints of this type were used in the West, particularly during the Arts & Crafts period where visible joinery in contrasting woods was considered part of the integrity of furniture making.



A wari-kusabi or split-through mortise in hardwood is locked in place with wedges inserted in the far side

## Tapered blind mortise

Again, this joint relies on compression of softwood and, like the tsuzumi, has been developed for making shoji and fusuma sliding doors and paper-lined panels with softwood frames. The sides of the mortise taper inwards so the end grain here will compress the tapered sides of the tenon as it is inserted.

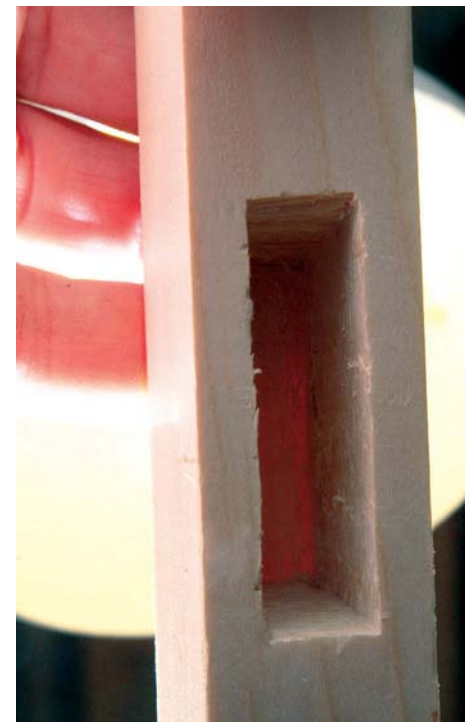
The socket is chopped the same way using the straight back of the chisel at a slight angle to cut the ends. The base of the socket is finally shaped using the sharp end of the chisel with a scraping action. A simple L-shaped depth gauge is cut for producing batches of uniform depth blind mortise sockets.

When held up to a lamp, the softwood base of the blind mortise is thin enough to see light through. Note that bright light will easily show through softwoods such as pine (*Pinus spp.*) or spruce (*Picea abies*) to a depth of two or three millimetres whereas hardwoods, depending on density and colour, barely show any light through even at veneer thicknesses of 0.6mm.

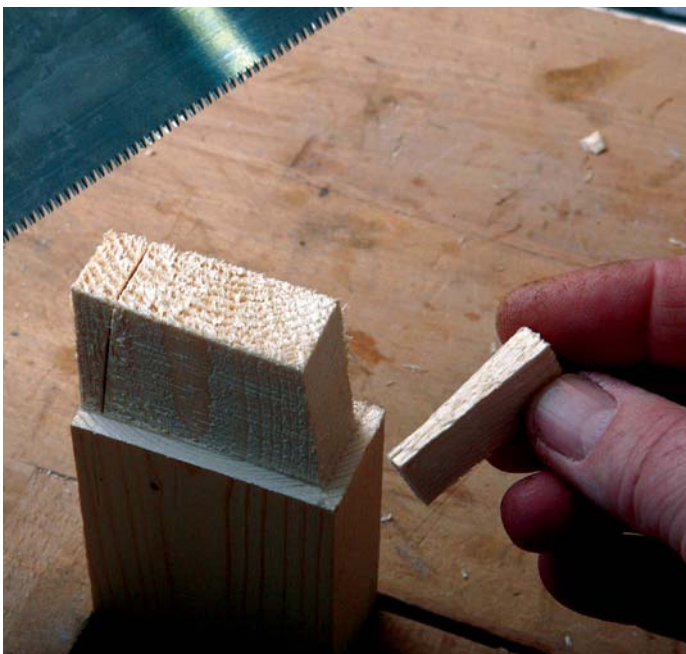
The tenon is sawn with tapering sides corresponding to the angle of the mortise, but very slightly wider. On assembly it is wedged tightly in place compressing the softwood grain of the tenon, which later swells by uptake of water from glue.



A simple depth gauge is used for checking progress of the blind mortise



Held up to a lamp, the blind base of the mortise is thin enough to see light through. Also note that the sides of the mortise taper inwards



The tenon is sawn with tapering sides corresponding to the angle of the mortise



The tapered tenon will be wedged tightly into the tapered mortise – cut away for clarity



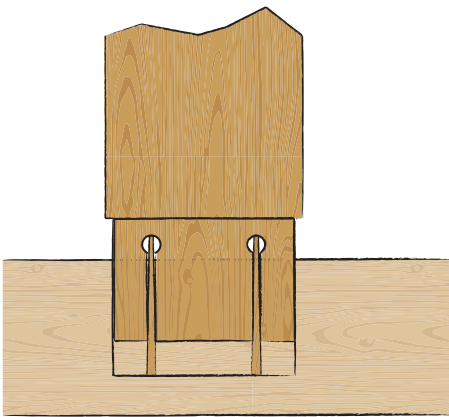
### Blind mortise and split tenon

The jigoku-kusabi blind mortise and split tenon is a very robust joint for use in hardwood. The tenon is prefitted with wedges in kerfs sawn in the end. A round hole drilled at the base of each kerf makes it less likely for a crack to propagate and weaken the tenon at shoulder level.

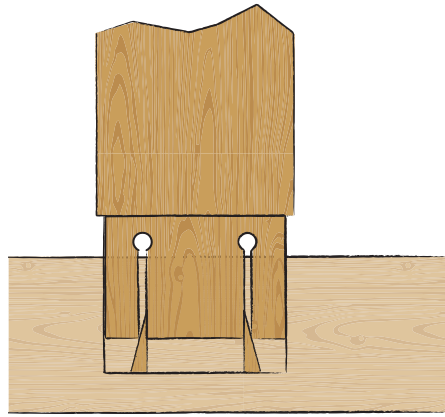
When the joint is drawn together, the blind end of the socket drives the wedges home. A similar system has also been used by Western cabinetmakers where it is known as a fox-wedging.

The action of fully closing the joint with the wedges in place renders it impossible to open

again. Dry fitting therefore should be carried out without the wedges in place. Pay careful attention to the length of the wedges as well as the degree of taper. If the wedges are too long they can be forced to split the tenon at the base of the slot as the joint closes. Too wide and the wedges can bind before the joint has closed. Too shallow and the tenon will not be forced to expand in the mortise. Tapering both sides of the wedge equally encourages them to travel up the slot in a straight line and avoid the risk of it shearing. The broken section will lie at the bottom of the mortise and could prevent the joint from closing.



The wedges in this joint are too long and will be driven into the tenon, causing it to split



The wedges in this joint are tapered on one side only and could break, thus preventing the joint from closing



The jigoku-kusabi blind split mortise in hardwood – cut away for clarity – has a tenon prefitted with wedges. When the joint is pressed together, the blind end of the socket drives the wedges home

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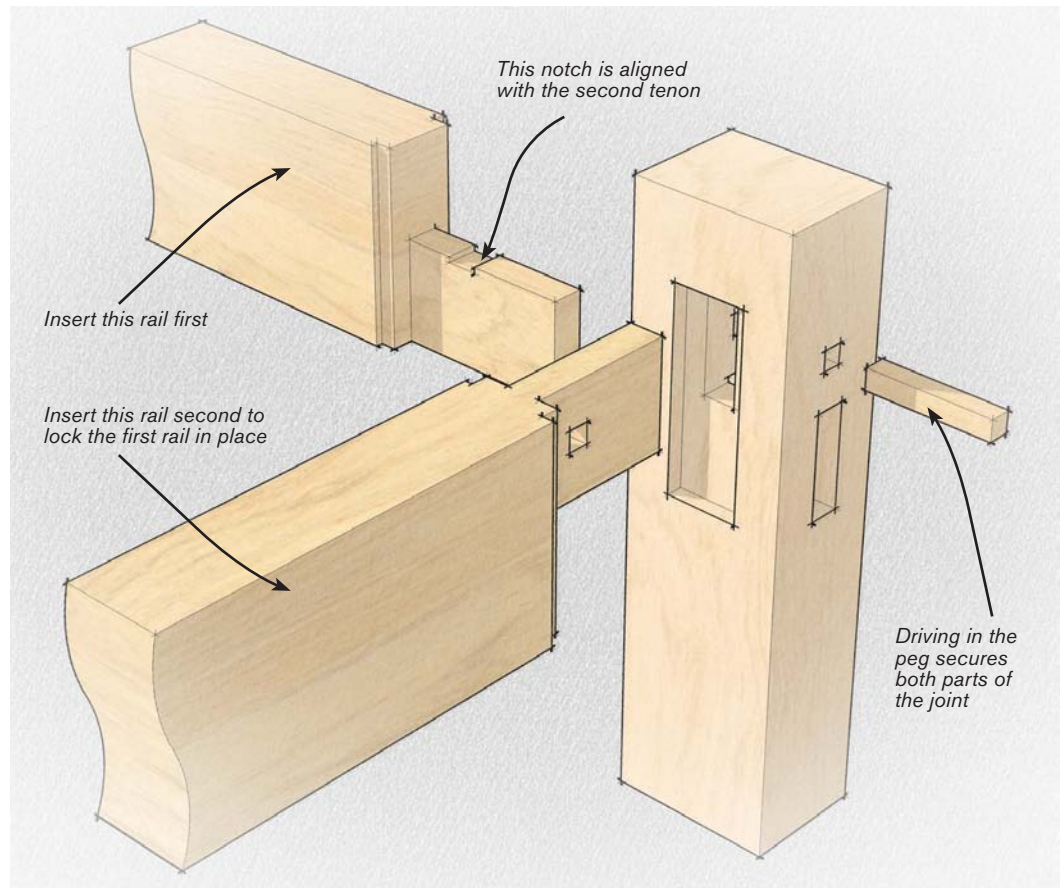


## Post and rail mortise

The komi-sen or pegged mortise joint comes in a variety of forms and is often used when joining two or more rails into a post at the same height, which can otherwise be problematic.

This requirement arises on framed furniture, such as chairs and table legs, for example, and if not tackled well causes points of weakness in the construction. Because several mortises are being cut in the same area there is a danger of weakening the post if the joints are large, or weakening the tenons if they are too small.

Japanese temple builders over the centuries have developed many solutions such as this, depending on the specific construction. We will look here in a little more detail at one simple but deceptively ingenious Japanese joint based on a haunched and pegged mortise and tenon.



## Two-stage strength

When a joint has two or more tenons passing close together they need to be kept slim and arranged so they do not clash. There are various ways of interlocking tenons, but in this joint they simply pass one above the other. Because the slim part of the tenon is only half the width of the rail, both rails can be fixed to the post at the same height.

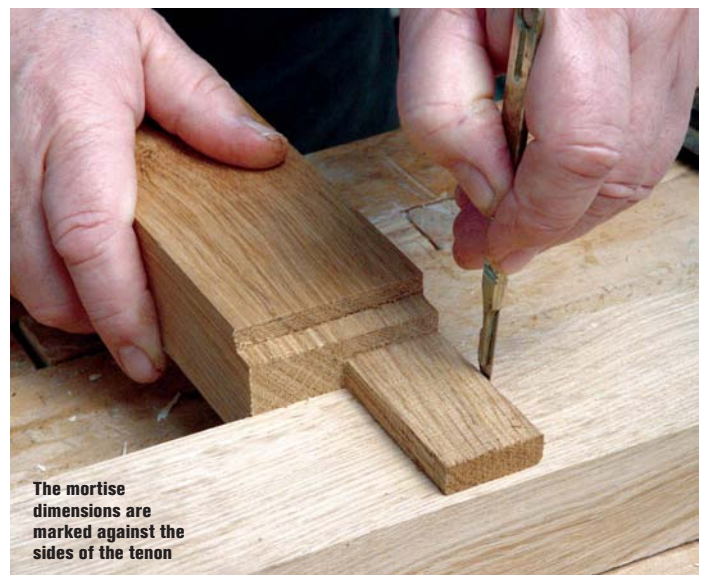
The long through-tenon is pegged in place and it provides the joint with tensile strength – strength in tension. This works well because relatively thin wood is strong in tension. Because this part of the joint is thin,

it does not remove much material from the post. This leaves room for one or more other joints to be cut in the same part of the post without weakening it.

Heavy sideways pressure on a tenon joint exerts a shear force, which can break the tenon off at the shoulders. Shear force is the name for one that pushes an object in two directions and tries to force it apart. Thin tenons do not withstand shear forces well. The broad base of the tenon is very good at withstanding shear force and does not need to be very long to do so. By making each

tenon in two stages – a long thin through-joint, protruding from a broad short butt-joint – the best of both can be combined resisting both shear and tensile forces.

A locking peg is inserted through the side of the mortise and tenon. The hole for the peg is chopped with the tenon in place to stop the inside splitting away. The peg position is marked on the tenon but then the tenon is withdrawn to chop the peg-hole through it. Chopping this hole at a very slight angle enables the fitted peg to draw the joint tightly together.







The deep, narrow inner mortise is chopped through from both the entry and exit face



The broad shallow outer mortise is chopped on the entry face



The two-stage tenon is trial inserted in the two-stage mortise



A socket is chopped through the side of the mortise to take a locking peg



A pair of haunched tenons are inserted in their mortises and locked in place with pegs

### Conclusions

The mortise and tenon joint has been used the world over since the first prehistoric constructions. However, subtleties in the way mortise and tenon joints have developed to address particular challenges vary greatly across cultures – traditional Japanese woodworking is rich in these solutions. *F&C*

Next time we will look at shiguchi, joints that are used for right-angled corners



# BRONZE AGE BLING

Joseph Thompson combines tried and tested joinery with ancient materials to put a new spin on draw pins

It was on a recent kitchen refurbishment project that we encountered a series of curious dilemmas. Our customer wanted to replace their wood grained Formica worktops with solid timber. Nothing untoward there you might say. But there were, however, a few things we had to work around to make this happen. It's not uncommon to have to take the lead from existing stylistic decisions and in many ways overcoming this can be far more challenging than working from scratch to your own design. That's what I'll be looking at in this article.



## The problem

The original cabinets and tiles were not being replaced in this project and the thickness of the new worktops had to be the same as the existing ones. The originals were a 20mm-thick Formica veneer and plywood worktop, but with a drop edge making it appear 38mm thick. On what might best be described as a peninsular unit the ends of the worktop were mitred with the corners removed so there were no sharp points; a feature that been extended to the front of the cabinets below.

In the initial consultation, we knew that the location of where the mitres came together would present an issue as far as wood movement was concerned. The project location was a home on the banks of the

Edisto River flowing through the Midlands of South Carolina, USA, where high humidity is a constant factor. The large solid wood worktops are mitred along all edges and folded to achieve the 38mm-thick appearance, but the mitred returns on the ends were likely to fail in compensating seasonal wood movement with just glue.

## The solution

Our solution was to introduce mitred folded breadboard ends, which is simply a traditional breadboard that is mitred to appear thicker. The breadboard ends will allow for a wide solid top to move and stay flat; it will also allow the mitres to move and not blow out.

Our customer wanted to use Caribbean rosewood (*Metopium brownei*), which was nice and hard. A word of advice here, always follow precautions when working with exotic species: the oil in the wood is a skin irritant and will also create build-up on the surfaces of your tools. Prepare to clean and sharpen your tools often when using this wood. Chechen will also stain your hands and clothes. A dust mask or respirator is absolutely necessary when working with it, as well as good eye protection. Using this species definitely added to the challenges we already faced with this project. I would recommend using another hardwood to practice this joinery technique.

## Joinery for breadboard ends



Drilling mortises



Cutting of the mortises



Establishing shoulders



Initial marking of tenons



Fine-tuning the shoulders

### Step 1

Lay out the mortise and stub mortise location on the face of the breadboard end. To ensure you don't lose your layout lines, drill out the waste of the mortise on the drill press first. At this point, you can either clean out the mortise walls with a mortise or bench chisel, or cut them using a slot cutting bit on the router table. An alternative combination approach works well if you have access to a set of grooving cutters for your router. There will be a little squaring to do at the ends of the groove but it will be far less punishing on edge tools than removing all that very hard material by hand. Chopping through end grain rosewood can destroy a sharp edge in seconds.

### Step 2

Transfer the location of the mortises onto the worktop by placing the breadboard end on top of the worktop piece. Mark each location with a reference mark, preferably distinguishing waste material from kept material. It's very easy to get confused when some aspects of the joint are set back from the edge.

### Step 3

Lay out the shoulders with a square and marking knife. Remove most of the waste with a large diameter router bit, staying just shy of the shoulder line. Leave a little material to fine-tune what will be your tenons.

### Step 4

The next step is to mark and cut the stub tenons and tenons. Since we are working with a large piece, consider cutting the tenons with a hand saw, router, rebate plane and chisel. Begin by locating the shoulders already scribed in the worktop piece. Then, clamp a straightedge to the top and use a flush cut bit on the router to clean up the shoulders. You can then flip the worktop and repeat on the other side.

A router plane will do the job just as well but be sure to have the sole of plane referencing from an offcut the same thickness as the material used for the worktop. This will ensure that your tenons remain square.



## Step 5

Transfer your tenon marks from the end of the board back onto the face again. Using a dovetail saw, carefully cut the tenons. Remove the waste between the tenons with a coping saw, jigsaw or chisel. Aim to make this joint tight so it will not rely on glue, but not too tight as it will need to expand and contract with seasonal moisture changes.

To keep the ends of the tenons crisp and prevent break-out while trimming, place a piece of scrap material beneath them as you work. Paring across the side of a tenon to the line instead of down it from the end will help to avoid tapering as the chisel will invariably want to follow the direction of the grain. The result will be an undercut tenon.



Chiselling the stub mortise

## Step 6

Now you will need to locate and drill the hole for the bronze pins. Drill the holes in the breadboard end first using a pillar drill if you have one. It's a good idea to insert a piece of scrap material into the mortise to prevent the wall of the joint from blowing and deflecting the drill bit. The entry and exit holes need to be as closely aligned as possible. If drilling freehand is your only option then on thicker material especially, drill from both sides. Any deflection will be reduced. Don't rule out having to ask someone to spot for you on this step.

Next, with the breadboard attached and positioned with the shoulders tight on both faces, transfer the centre marks to the tenons with a 1.5mm brad point drill bit, which you will use to drill the hole. Turn the bit anti-clockwise to score the tenon; this will locate the centre of the hole accurately without measuring.



Test fitting of the breadboard



Marking pin locations in the tenons

## Step 7

After removing the breadboard, locate the transferred marks and make another mark about 1mm closer to the shoulder and turn the bit anti-clockwise once more to score a new centre point for the actual hole to be drilled; this will ensure the breadboard is seated tightly to the tenons' shoulder when the pins are driven in. Carry out any final checks to make sure that the joint is ready to assemble for good.

The centre tenon will be fixed but the outer two need to allow for expansion and contraction. Slot the pinholes in the outer two tenons left to right. You can redrill them or do it with a rat tail file, a rasp or with a router. Only the centre tenon is glued and a short section either side of the stub tenon. The outer two tenons and stub tenons will be dry jointed to allow for movement of the worktop without rupturing the joint.



Drilling pinholes in the tenons



Final dry fit



Final dry fit close-up



### Step 8

Finally, with the breadboard attached for the last time, draw bore the holes. Hammer the pins home but leave the pins slightly proud at the surface and pillow them with a file. You can alsopeen them for some extra texture.



Hammering the bronze pins



Finished first pin

### Step 9

For a finish on kitchen worktops, consider a low-maintenance finish. Osmo top oil was used on this project due to its wear and stain resistance. It's an easy wipe on, wipe off low odour finish; this was especially helpful as finishing was done on site in the home. *F&C*



Finished breadboard end and worktops installed in client's home



Preparing the breadboard mitre fold



Close-up of finished breadboard pin in client's home



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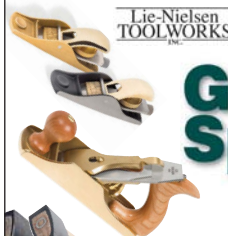
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Anne Briggs Bohnett is the inspiration behind the Community Tool Chest and the increasingly popular 'Anne of All Trades' blog featured in F&C 225. We were fortunate to meet with Anne when she launched her project to assemble not only the perfect set of hand tools but also those that came with a story attached. In the months ahead Anne will be sharing tips and techniques from professional tool makers and woodworkers as she seeks to develop her repertoire of skills in the workshop. Just as buying cheap doesn't necessarily mean substandard, paying more now and then might just work out cheaper in the long run. So whether it's refurbishing a flea market bargain or investing in a custom made heirloom tool, Anne's going to show you how to choose wisely and buy once.

# Choose wisely and you'll only buy once

**That's the advice given by Anne Briggs Bohnett as she begins her quest to assemble the perfect set of hand tools**



For many woodworkers, craft is a solitary pursuit. For me, it has always been a journey with relationships, rather than finished projects, being the main focus. At Woodworking In America 2014, I became friends with several boutique toolmakers and an idea began to formulate. I have a passion to teach and inspire my peers to preserve disappearing crafts; to buy quality tools once and to build furniture that will withstand the tests of time and style. In my own pursuit of woodworking skill, I have tensioned between a limited budget and the desire to buy and use the best quality tools. My visit to WIA afforded me the opportunity to spend time with the makers of several of my tools and those relationships gave my tools infinitely more meaning. And as it has happened, I've ended up with several Bad Axe saws on my bench, a few as loaners, a few to keep.



## The Community Tool Chest

Mark Harrell, founder of Bad Axe Tool Works, approached me a couple of months ago and asked me why I didn't have any of his saws. When I told him about my Community Tool Chest initiative – a set of quality tools used to create educational blog posts, magazine articles and videos to teach and inspire those interested in learning hand-tool woodworking – he offered a couple of custom saws in exchange for a commissioned piece, which will have its debut at Handworks in May. The rapport Mark and I had via several emails and phone calls was like that of old friends from the outset. Since then, I have been continually impressed by his passion for making quality tools, his customer obsessed mindset and his genuine desire to invest in the next generation of woodworkers. I have been floored by his willingness to drop everything to answer a phone call or a text when I have a question and he has bent over backwards to help move my Community Tool Chest project along. He is kind, disciplined and incredibly knowledgeable.

## In a league of their own

My taste in tools leans more towards the 'classic' look of antique tools, especially old Disston saws with their apple handles and brass hardware. I am very impressed with both the look and feel of the Bad Axe and other boutique tools I've owned and used. Around the end of World War II, the general quality of the big name tools like Stanley and Disston began to deteriorate significantly. Details became increasingly less defined, and eventually we ended up with the plastic handled saws you can buy at any DIY store. For some purposes, these saws are great: I use my Stanley Fat Max saw all the time working around our farm and even in the 'shop, but the blade is hardened – meaning it can't be sharpened, so it is disposable – and the handle is not built for hours and hours of comfortable use. In higher end boutique tools today, much like the quality tools in days of old, the tools actually work as they are intended. The lines are clean, the details are defined, and the finish is beautiful. They can be tuned, sharpened and used for generations to come. Another thing worthy of mention is that new high end tools are generally ready to use



A typical Bad Axe saw



Joinery saws can come in many styles

straight out of the box, albeit with a little honing perhaps on edge tools. Beginner woodworkers are often frustrated when the new tools they've just purchased don't work like they would expect. Understanding the tune up and sharpening process can help avoid making a bad purchase in the first place. Understanding

## Preventing chatter

*Whether you are making a cross or a rip cut, your workpiece must be secured tightly to prevent chatter, or vibration as you cut. Chatter destroys accuracy and makes it very difficult to saw well. Work can be supported against a bench hook, which uses the forces of gravity to hold stock still, or clenched in a vice. When using my backsaw, my go-to clamping methods are bench hooks and my Moxon vice, which is extra handy because it lifts my work higher off the bench and keeps me from becoming a hunchbacked woodworker. You always want to leave enough room for your saw to work without marking your vice, benchtop or bench hook, but you also want to have as much of your stock as possible supported as you cut.*

the range of tasks each tool is designed to do will avoid you purchasing an expensive tool with little purpose in your 'shop.

## First time buyers

Recently, many boutique sawmakers are making 'hybrid filed' saws. In well filed saws, the hybrid filing is seamless whether doing rip or crosscut. This essentially cuts – sorry about the pun – your saw needs in half. A young woodworker, looking to buy the best tool they could afford once, to keep and use for a lifetime, would have to look no further than a high quality, hybrid filed saw, and could very easily get away with having only two saws in their arsenal: a hybrid filed panel saw filed around 10ppi for large rips and crosscuts and this 14ppi hybrid filed dovetail saw for joinery. The filing is another thing that has really impressed me about Bad Axe saws. Lesser quality saws, regardless of whether they are rip or crosscut filed leave a little ribbon of material behind the saw as it tears through the wood, leaving more to clean up after making a cut.

The thing that really set the Bad Axe name apart for me though, was when I received the two custom apple and brass saws with extra



The Bad Axe extra small handle is a perfect fit for my hand



small handles Mark built for me. I have very small hands and feet – I can actually shop in the children's department for shoes – so saws and planes with handles built for a larger handed, male dominated workforce have always been difficult for me to wield. My palms get easily bruised and sore during hand tool woodworking because the large handles on my tools rub in the wrong part of my palm. When I opened the saws from Mark, I promptly went into my shop and made about 100 cuts with both saws. The small handles fit my hand so well, not only was it easier to start my cuts, I was able to cut far straighter than I ever had before because there was no slop in my grip.

### In theory

From a beginner's perspective, the terms filing style and PPI likely seem fairly daunting. A backsaw is meant for joinery cuts at the workbench. Rip filed backsaws excel at cutting dovetails and sawing down along the grain. Crosscut filed backsaws are made for cutting across the grain and are great for getting stock down to size, for sawing the cheeks off tenons and cutting mitres. PPI is short for Points Per Inch and is a measurement of the quality of finish of the cut: a low PPI will cut quickly but leave a rougher finish, a high PPI will cut slowly but leave a nicer finish. A hybrid filed saw does both, the only sacrifice being that the kerf – or the space left as the saw cuts through the wood – is slightly wider on the rip cuts than it would be if one were to use a classically filed rip saw for rip cuts.



**Pistol grip**

### In use

The way you position your body and hold the saw is very important. Use your dominant hand to grasp the handle like you would a pistol, pointing your index finger towards the line you want to cut. A tendency most young woodworkers have is to grip the saw handle very tightly and to bear down during the cut.

A tight grip will cause your saw to wander. Instead, pretend there is a small bird inside your palm and be careful not to crush it. I picked this tip up from Chris Schwarz and it's especially relevant to me since holding



**Using bench hooks**

baby chicks is one of my favourite pastimes on the farm. The weight of a backsaw itself will use gravity to drift down into the cut without any added pressure or weight on the back of the saw. Align your body with the cut so with your full range of cutting motion, your arm will remain perfectly aligned with the line you are cutting. Keep both eyes open. Place your non-dominant foot forward so as to square off your body. Hold your work with your non-dominant hand to stabilise the workpiece and to close off the system.

As you begin your cut, place the tip of your saw on the waste side of your line on the corner away from you. Use the radius of your thumb as a guide for

## Caring for your saw

*Using wax, be it leftover candle stubs, paraffin or beeswax to wax your sawplate on occasion while you are using the saw will help to keep the saw moving smoothly through the cut and will also protect it from heating up due to friction within the cut.*

*Taking care to wipe down your saw with mineral or jojoba oil in a dust cloth – woodworkers call these 'woobies', please don't ask me why – will keep your saw protected from rust and looking beautiful for years to come.*



**Both beautiful and functional**



**Practice, practice, practice**



**Radius of thumb used to guide the saw**



**Tools for tool care**

the saw as you gently push the saw into the cut, taking as much weight as possible off the back of the saw. A gentle touch here is key, because if you force your way into the cut, your saw will jump out of your intended line and mar your workpiece. Saw down your lines using the whole plate of the saw at a slow and steady pace. As your skill improves, so will your speed.

### Conclusion

After you have the basic body positions down, it is time to practise. Draw a succession of lines for both cross and rip cuts on several pieces of scrap timber. Practise sawing to your lines for a few minutes each day and you'll be a professional sawyer in no time. *F&C*





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**Router course tutor Chris Yates gets to grips with jigs, templates and guides to simplify production**

# Jig design for routing

**W**hen looking at an article or book on routing, jigs usually get an early mention. The thought of using a jig, let alone designing and making one from first principles, can be a bit offputting to woodworkers new to routing – and even to some more experienced users. This article explores the reasons why jigs may be the right way to go and the second part of this article will demystify some of the whys and wherefores in designing jigs, as well as looking at the construction of some practical jigs and covering the bits and pieces that jig makers are likely to find helpful.

While this article is focussed specifically on jigs for routing, the principles it describes are relevant more widely and can also be used with other machines.



## Jig misconceptions

Firstly, let us try to dispel two common misconceptions about jigs: that they are expensive, and that you need to buy several of the plethora of shiny devices available from suppliers. Although I do have a few bought-in jigs, the vast majority in my workshop are shop-made – and in some cases made from offcuts. Any clamps or other bought-in fittings are usually removed on completion of a project and kept for further use later meaning the outlay on a new jig is likely to be very low.

**So, why do we need jigs? There are several reasons, of which the most common are:**

- Safety – they are needed to protect you and/or the workpiece from tooling
- Accuracy – they help you to cut exactly where you want
- Repeatability - if you have a number of identical components to make, a jig can ensure they are exactly the same and not just similar
- Efficiency – even for one component, time

spent making a jig can save you a great deal more in the setup and cutting of test pieces or to complete it by other means

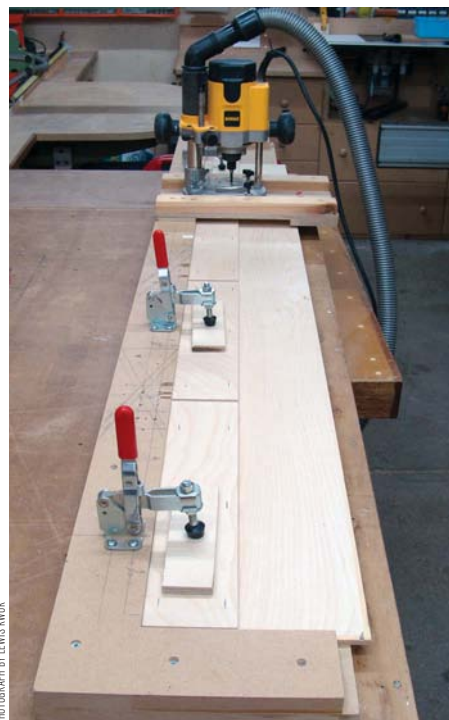
- Enabling – there may simply be no other sensible or safe way to achieve what you need, especially when it comes to producing small workpieces

In practice, there will often be two or more of the above reasons for using a jig in any particular situation but in summary the design and use of jigs will probably reduce the risk of something going wrong.

## What are jigs?

At their most basic, jigs are a guide system to control movement of a router or workpiece relative to the other, safely. They may be very simple, such as an end stop comprising a block of wood clamped to a router table fence to ensure that cuts are stopped at exactly the right place, or they may control more complex movement of the router like the one adjacent. It is likely that shop-made jigs will be made predominantly from wood, as it is usually available, easy to work with existing tools and cheap. In contrast, bought-in jigs are likely to be made from more durable materials, such as metal, Tufnol or other man-made materials. This is reflected in their prices, as well as their anticipated durability.

Most router users will probably be familiar with kitchen worktop jigs, if only from catalogues, but there is a host of jigs available to help you cut dovetails, circles, ellipses, or even relatively straightforward rectangular or circular openings, such as letterboxes or hinge recesses. In many cases, whether you buy or make a jig will be determined by how many times you expect to use it but in some cases, it is just not practical to make your own.



PHOTOGRAPH BY LEWIS AWICK

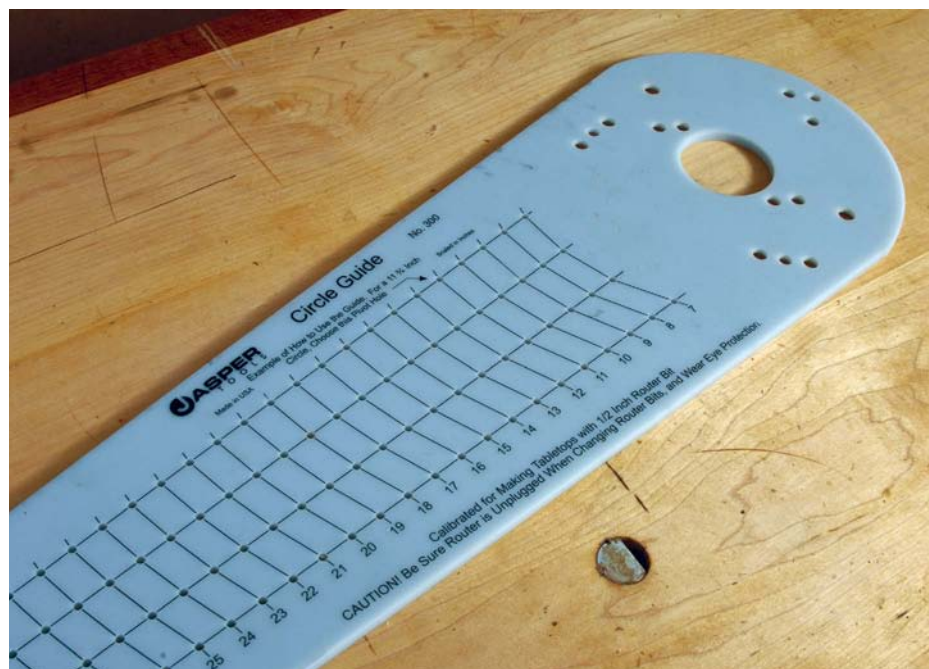
**A complex jig, used for a number of things. The router is firmly guided on both sides of its base resulting in accurate width rebates**



**A typical kitchen worktop jig made from hard-wearing solid laminate has all the profiles necessary for jointing the ends of worktops**



**This cross-cutting jig is made from Tufnol and is guided by the fence on a router table**



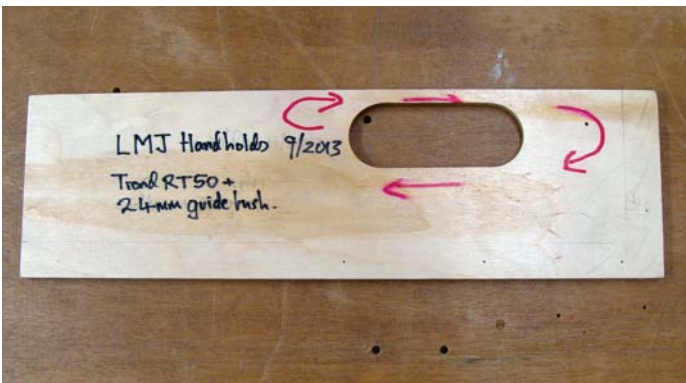
**This versatile circle-cutting jig is pre-drilled with 6mm increments**





A dovetail jig can revolutionise your batch production

There are always a couple of questions to ask yourself before deciding to design your own jig. Firstly, how general purpose will you make it? In other words, do you anticipate using it for similar projects again and again? If so, you may put more effort into making it more adaptable to, say, a range of sizes of workpiece, than if you are making it for a specific cut on a single size of workpiece. For example, this can have an impact on the way you hold the workpiece in the jig as well as the overall capacity of the jig. If you anticipate using it just once, you might be prepared to screw the workpiece to the jig, or use double-sided adhesive tape to mount it, whereas if you expect to use it regularly, you may well choose to use toggle clamps or shop-made cam clamps. In my workshop I have a few jigs that I use regularly, but the others I tend to dispose of on completion of a project and recycle usable hardware.



A much-used, but very simple, handhold cutting jig. While it is very simple, it can be used to make hand holds of varying sizes by changing the cutter or guidebush

With several good dovetail jigs on the market at a range of prices, it is quite likely that buying one of them makes sense compared to making a less adaptable jig, which would probably take an appreciable amount of time to make. In contrast, why anyone would buy a circle-cutting jig baffles me, when you can make any number of them for different projects in very little time in your own workshop. There it is again – choice!



Manufactured jigs come in basic forms but will often require the use of specific cutters and guidebushes

One of the jigs I use most often is a general purpose jig that lets me cut accurate stopped rebates on long thin lengths of laminated ply and another enables me to cut tidy handholds. In the first case, the size of workpiece varies between projects, so the jig currently in use is large enough to accommodate the largest so far required. Simple screw down stop blocks locate the workpiece in the right position and toggle clamps hold the workpiece securely. This lets me use the same jig to make similar but differently located and sized stopped rebates accurately on many different sized workpieces.

In contrast, the handhold jig could hardly be simpler. It is intended to be used with a router with a guidebush, so the size of handhold can be easily adjusted just by changing the sizes of router cutter and guidebush. Simple screw-on battens can enable the jig to be repositioned on different workpieces quickly and repeatedly.



Jigs can be really simple, such as these blocks clamped to a router table fence to achieve a stopped groove

## Jig to job or job to jig?

Another question to consider is where will the jig be used? Will you fit the workpiece to the jig, or the other way around? Or will you use the jig in combination with the router table? The answers will have a determining effect on the design of the jig, not least its size. For example, a circle-cutting jig I used recently had a radius of 180mm, so obviously it had to go to the workpiece and not the other way around. Conversely, a jig to hold a small workpiece safely for machining on the router table will probably be no larger than around

900 × 400mm or it will be too difficult to handle safely – the balance will be all wrong. As well as size, a determining factor is likely to be the order of machining tasks, not least so that there is always a reference edge to work from. So, as always, it pays to think through the tasks to be undertaken before making a start on jig design and construction. For example, can a workholding jig be used for more than one machining operation, perhaps using an edge of the jig itself as a substitute reference edge on subsequent tasks.



## PROJECTS & TECHNIQUES

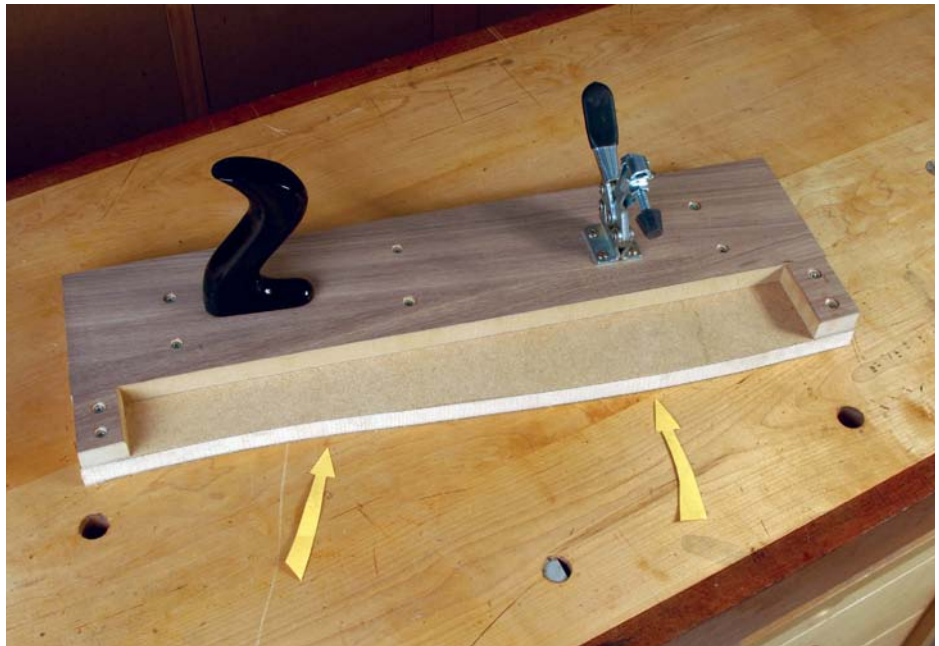
### Machine & equipment tech – principles of jig design for routing

## Principles

To help clarify the mind before designing our jig, I have tried to determine some jig design principles. As an example, the following notes relate to a common configuration of a benchtop jig in which the workpiece is held and with the router passing over the top of the jig. However, similar principles apply to workholding jigs used on a router table or other configurations.

### Reference edge

The most important consideration is to define a reference edge and make sure that the workpiece can be mounted into the jig using it. This is especially important if you are going to use the jig to machine multiple identical workpieces. If possible, identify a straight edge and measure everything from it. If that is not practicable, you may need to use a mating shaped spacer piece to position the workpiece accurately and consistently.



A sled-type jig is a carrier for the workpiece to pass by the cutter. The required profile is created as part of the jig



The workpiece extends beyond the edge of the jig



Make your jig longer at both ends of the workpiece for clean entry and exit points

### Starting the cut

When planning a jig, think about how the router is to be introduced to the workpiece. As ever, you will want to avoid taking large cuts in a single pass, so will the workpiece need to be cut roughly to shape first. If so, this might give more opportunity to plunge the router away from the edge and enable it to be moved to the edge while spinning, thereby reducing the risk of an uneven entry mark and probably a burn mark as well.

### Stopping the cut

For the same reasons as above, ensure that there is room to remove the router cutter from the edge being cut before releasing the plunge and removing the router.

### Supporting the router

How will the router be supported throughout the cut? It can happen with some jigs that the router needs to rest on a surface that

will be progressively removed, resulting in at least one side of the router base being unsupported. Fairly obviously this can result in the router tipping and digging the cutter into the workpiece. Therefore, the jig must be designed to provide support for the router throughout the cut, possibly by using a suitably sized auxiliary base fixed to the router bottom that can span any aperture in the jig. This will need to be stiff enough to maintain the router at the correct height, otherwise any cut that does not penetrate the workpiece will have an uneven depth.

### Holding the workpiece

The jig must be able to hold all of the workpiece in exactly the right position repeatedly, even after some of the cuts have been made. This is more likely to become an issue if routing delicate workpieces, where the router cutter will tend to draw thin or small parts of the workpiece towards

the cutter, thereby removing more material than intended. In extreme cases, it may be necessary to fit flush-mounted bolts screwing through the jig top into captive nuts fitted on the underside of the jig base to tightly sandwich the workpiece across all the at-risk areas.

It is useful to think about how the workpieces will be held early in the jig design, as the footprint of the router – and any auxiliary base or fences – may make it difficult to mount clamps or other hold-downs without them getting in the way. As in all routing tasks, a little ingenuity may be required!

### Protecting the workpiece

Always try to arrange the jig so that if the router does move off a guide edge, guidebush or bearing it won't damage the workpiece, but will just cut into waste wood. *F&C*

## NEXT MONTH

In the next part of this series, I will look at the subject of jigs more closely: why they may be the right way to go, demystify some of the whys and wherefores in designing jigs as well as looking at the construction of some practical jigs.





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wheel diameter	600mm
throat	580mm
depth under guide	370mm
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motor power	2.2 kw 3.0 hp
table size	700 x 608 mm
table tilts	0-20 degrees
blade length	4470 mm
dust outlet	100mm
Shipping	230x860x2080mm

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##### PLANER:

Max planing capacity:	300 x 220mm
Length of tables:	1500mm
Cutter Block Dia :	70mm
Fence angle tilt:	90° 45°
No of knives:	3 300x20x3
Max Stock removal	4 mm
Feed rate:	7 m/min

##### CIRCULAR SAW:

Blade tilt:	0° - 45°
Blade diameter:	250mm
Scoring Blade	90 mm
Max blade height 90°:	80mm
Sliding carriage:	1250 x 315 mm
SPINDLE MOULDER:	
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Shaft Dia	30 mm
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Max dia of tool	160mm

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#### Technical Specification:

Fan diameter	300mm
Inlet diameter	125
Inlet holes	2 x 100mm
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Bag diameter	500mm
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Motor power	2hp
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Main table dimensions	905 x 305mm
Auxiliary table dimensions	290 x 259mm
Platen tilting	0 - 90 degrees



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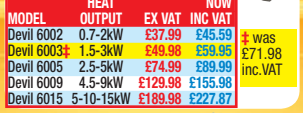


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Einhell RT - PL82	850w	3mm	£49.98	£59.98
B&D KW750K - GB	750w	2mm	£57.99	£69.99

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CVAC25SS*	1400W	19/17ltr	£64.99	£77.99
CVAC30SS*	1400W	24/21ltr	£86.99	£104.39

\* SS = Stainless Steel

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PC40	3.5Hp	20amps	£269.00	£322.80
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Clarke CON750*	750w	80/10mm	£24.99	£29.99
B & D KS600*	450w	60/5mm	£29.98	£35.98
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CDP151B	300/5	£106.98	£128.39
CDP10B	370/12	£169.98	£203.98
CDP301B	510/12	£199.98	£239.98
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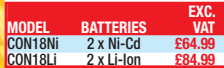
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CON300	230X115mm	330w	£29.98	£35.98
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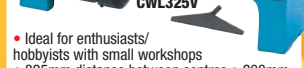
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CPT800	1250w	120mm	£189.98	£227.98
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CHT152	Clamped	72/60/40	£16.99	£20.39
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TH-SM2534					
Makita					
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## Our correspondent...

# A day at the show

**Roy Schack reports from last year's woodworking tool show in Miki Prefecture, Japan**

PHOTOGRAPHS BY ROY SCHACK

Over the years *F&C* has acquired readers from all four points on the compass and since going digital in 2013, that trend has increased. You can find us anywhere in the world with a link to the web. As the content of the magazine is a true reflection of our readership, we've decided to introduce a new style of article that will take us on a workshop tour of the globe.

Our reporter this month is a Danish born former merchant banker turned woodworker who lives in Australia. Ladies and gentlemen, our global correspondent this month is Roy Schack.

**O**n a recent trip to Japan, a friend and I jumped on an invitation to attend a woodworking tool show in Miki Prefecture. Walking through the main doors, we were greeted by the aroma of freshly sawn Japanese cypress (*Chamaecyparis obtusa*) and cedar (*Cryptomeria japonica*) and a warm buzz of stilted excitement. There wasn't much of the cacophony we would experience in Australia – no loud tablesaws, planers or car park chainsaw mills. This show was more about Japanese hand tools with individual manufacturers proudly displaying their beautifully crafted items.

### **An Aladdin's cave**

Strolling down the aisles bedecked with

chisels (*nomi*), and saws (*noko giri*), hand planes (*kanna*) and adzes (*chouna*), measuring tools and an endless array of both synthetic and natural sharpening stones (*toishi*), you could be forgiven for thinking you were in an Aladdin's cave. My first inclination was to dive into the aisle with all of the hand-made *Nomi*. I learnt my craft with four Iyoro Japanese chisels and I still have them 20 years later. My collection has grown a bit over the years and after visiting this show, I must admit that it has grown a little more. One tool that really grabbed my attention was a Japanese spear plane (*yari ganna*). To all intents and purposes, this tool resembles a spear with its point curved up at the end. It is an ancient design, being





the predecessor to the more recognisable kanna. The blade is beautifully forged and sharpened on both edges so that it can be both pulled and pushed, depending on grain behaviour. Yari ganna are experiencing a resurgence. They are typically used in the construction of temples and shrines to clean off the rough surfaces left by a combination of chouna and axes.

### Kanna

Kanna, like their Western counterparts, come in a variety of shapes and sizes. The quality of the wooden body (dai) and its preparation is as important as the quality of the blade (kanna-ba) that is set into the dai. This process of preparation is usually carried out by the woodworker (mokko kikai), and, as with most western planes, the kanna needs to be properly tuned for it to perform well. Needless to say it was an absolute delight watching a master plane maker prepare a

dai, readying it for a beautifully hand-made blade. This is truly one of those instances where a synergy is created.

### A stand off between wood and metal

Further down the hall, there was a noticeable change in atmosphere. We had stumbled upon two competitions – one for hand planing, the other for hand sawing. It was a bit like walking into a chess tournament in a pinball parlour. I'd seen some snippets on the internet of these hand planing events, where the shavings seem impossibly fine. The intensity in the eyes of the competitors makes you feel you are witnessing a warrior standoff between wood and metal. I have to admit that my inner wood nerd came to the fore. I couldn't believe what these craftsmen were achieving with their kanna. The thinnest shaving I saw on the day was .008mm, and this was achieved a few times, full length and unbroken on Japanese cypress (Hinoki) and Alaskan yellow cedar. After taking a shaving, competitors would often stop to reset blades, flatten soles, sharpen edges and think about the next shaving. I found it particularly interesting that during this time, a damp towel would be placed over the timber. Asking a few friends has led me to the conclusion that this is done to help



The shavings produced by a well-tuned Kanna

keep the fibres soft in readiness for the next round. I wonder if I'd strolled in there with my hero Stanley 51/2, would there have been some bets put down? Next time, maybe. That would be fun. The Plane Duel of Miki Prefecture. I know that's one contest where I would walk off with my head bowed and my tail between my legs.

### Sawing competition

The day was wonderfully rounded off watching the end of the sawing competition. This was more of a family involvement event and similar to the events we see in our



Kanna work on the pull stroke



A fine selection of hand-crafted Nomi



It's all about the fun. A log cutting race

western woodworking shows. Father and son teams pitted against each other, friend versus friend. At the end of the day it was about the fun. The Japanese saws, however, are again, very serious kit. Cutting on the pull stroke allows the blade to be made very fine, as it stiffens under the tension of the pull. Images by the famous Japanese artist Hokusai, depict scenes of carpenters using enormous whale back saws (maebiki-oga), balanced precariously on the log, walking backwards and ripping out boards. It was a pleasure being able to watch this on a smaller scale on logs that had been squared by hand using a broad axe and chouna.

If ever you find yourself organising a trip to Japan, do some research and try to make it to one of these shows. You won't regret it. Attending a hand planing competition should be on the 'to-do' list of anybody interested in wood and hand tools. **F&C**



# Neat and tidy



PHOTOGRAPHS COURTESY OF HAWTHORNE CRAFTS

**Paul Mayon looks at the new tool from Hawthorne Crafts, which is proving to be a cut above a regular straightedge**

Veneering is something that many woodworkers shy away from. This is because of a misunderstanding that emerged only in the 20th century: that veneered furniture was second rate. Nothing could be further from the truth. Throughout the history of furniture-making, the very finest furniture has always had at least some element of it made from veneered boards rather than solid wood.

The tools to make accurate veneers are not always complex but they do need to be precise. All woodworking requires a degree of precision that is not apparent to the casual observer but veneer requires an attention to making precision cuts that is exacting. There is simply no room for error when cutting a – shockingly expensive – sheet of paulownia (*Paulownia tomentosa*) or gabon ebony (*Diospyros crassiflora*). When you compound the demands of the material with the small scale that most box makers operate on, even the smallest errors become magnified.

A scalpel is a staple part of the tool kit for someone who works with veneer, but what about the other part of the equation: the part that keeps the scalpel cutting a straight line?

## Using the tool

If you use a simple ruler of any type to trim edges it can – and will – slip at some point and – Murphy's law coming into play – usually on the most critical cut. Of course, you can decrease the odds of this happening a little by slowing down and being very, very careful or by setting up a router table with a flush trim bit. But all this takes time.

Hawthorne Crafts have created a genuinely useful tool to make trimming veneer – or indeed any fairly thin stock – quick, clean and simple. The tool significantly reduces the risk of tear-out or of a router bearing damaging a painstakingly finished edge. The Neat Trim removes the risk of tear-out on fragile veneers. This tool comes in one length currently – 120mm – and is great for trimming lipped edges on most boxes and for use on the lids and sides of many types of box. The Neat Trim is machined from billets of aircraft grade aluminium, which are finished using a beautiful candy apple red anodised finish.

## Stays in place

The material means that this is a light tool to use and the finish means it looks very pretty, and is easy to find in your tool box. Anodising is a greatly preferred finish in an application such as this where the tool will be used in conjunction with a hardened steel blade: anodising the tool means that the colour penetrates the surface of the metal. This means that the colour will last much longer than a spray painted finish – for example – when in use. The upper surface has an effective black no-slip layer applied to it, which is reminiscent of the black 'Tolex' finish sometimes applied to the carcass of guitar amplifiers. This is great to keep your fingers in place. The well-designed step-down next to the registration surface locates itself against a vertical surface on the workpiece. All of this means that the tool can be relied on to stay where you put it in service.

The Neat Trim costs just £25 including delivery, which, in this day and age of 'boutique' tools, seems a very reasonable asking price for the utility it provides. Think of it like this: if this tool stops one slip on a prized piece of veneer it will have already paid for itself. *F&C*

## F&C verdict

*If you haven't tried using veneer to make a box, then you are missing out on a really rewarding technique. If you do already work in veneers, you will know that precision is everything when a good result is required. Either way, the Neat Trim from Hawthorne Crafts would be a very useful piece of kit in your armoury. *F&C**

**Price:** £25

**From:** [www.hawthornecrafts.com](http://www.hawthornecrafts.com)



**The Neat Trim makes trimming veneer overhang on flat work quick, crisp and clean**



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PHOTOGRAPH BY DAVID CHARLESWORTH

# Simplicity itself

**David Charlesworth puts the 'ruler trick' back under the microscope to explain why a back bevel of less than one degree can make such a big difference**



**Stiction! The bond between blade and waterstone is sufficient to lift the stone and its base off the bench**



**The narrow band of polish**



**A close-up view of the polish strip can be seen as a micro bevel**

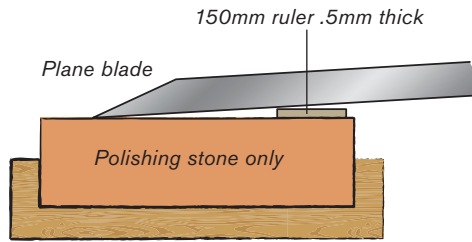
**W**hen Japanese waterstones became available in this country, we experienced some difficulty in preparing the backs of plane blades. A ferocious 'stiction' would develop between the tool and the stone, making movement impossible.

We managed somehow, but I began to wonder why we were polishing this large area

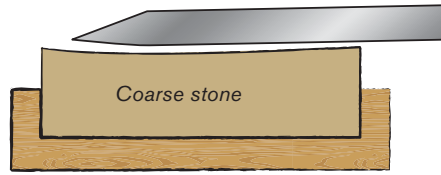
of metal which did no cutting? This led to the idea of supporting the blade on a 0.5mm steel ruler, on one edge of the stone, so that the back was only polished adjacent to the edge. Stiction ceased to be a problem and a narrow band of polish was quickly established, across the back, at the edge – just where it is needed for excellent sharpening.

The ruler trick is only used on fine polishing stones, such as 6, 8 and 10,000 grit. I find 8,000 to be very good and am not sure whether I can detect much improvement by going to 10,000 grit. The narrow band of polish never exceeds 1.5mm in width. Please note that the ruler trick may be used for all blades except bench chisels, which are jugged by a flat back.

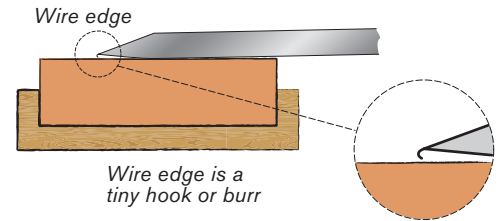




The ruler trick ensures contact between edge and stone. The wire edge is honed away



Working on the middle of a stone creates a hollow, which causes a belly on blades



Belly prevents wire edges from being correctly honed away

## Sharpening

There are two questions that are pertinent to excellent sharpening: is the stone perfectly flat and is the blade back perfectly flat?

We need these two conditions to be true in order to be sure of polishing off the last vestiges of wire edge. The probability of those two things being true is extremely low. Many craftsmen flatten waterstones on wet and dry float glass. This is a good method, but does tend to cause some roundness near the edges of the stone. The same effect is seen when plane soles are flattened by this method.

Working on the stone hollows it very

quickly. This hollow tends to put a belly on the back, which prevents honing of the wire edge.

By raising the blade on a cheap, 0.5mm thick stainless ruler, contact of the edge with the stone is practically guaranteed. The probability of correctly polishing away the last of the wire edge is massively increased. We used to find sharpening somewhat inconsistent, but now get totally reliable results.

I used two strop edges when using oilstones but find no need now. The grit size of an 8,000 grit polishing stone is probably finer than many stropping pastes. The last traces of wire edge will float off on the

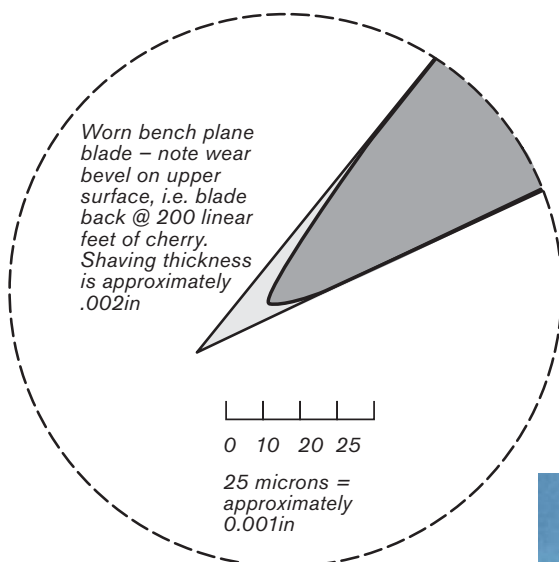
polishing stone, the sponge cloth or the drying towel. On the rare occasion when I see some wire edge, I know something has gone astray during the sharpening process.

## Speed

When a new blade has to be prepared, the ruler trick will save some time. However, the back must be flat in width, in the vicinity of the edge, or the cap iron/chipbreaker will not fit. An 800 grit stone may be used for flattening and you can proceed straight away to the ruler trick on a polishing stone. Some polishing time is saved but this is not really relevant in the long run.

## Wear bevel

I use a 40× microscope to help explain sharpening to my students and recently have been paying more attention to the wear bevel. Metal is abraded away from both surfaces of a plane blade as it blunts. It seems likely that the small back bevel – two-thirds of one degree – imposed by the ruler trick, may be useful in removing some of the wear bevel. It is good technique to sharpen before a blade is completely ruined. Less metal will have to be removed to restore best performance.



Note how metal is removed from the back of the blade

Taken from Steve Elliott's website:  
[www.bladetest.infillplane.com/index.html](http://www.bladetest.infillplane.com/index.html)

Perfecting and creating clearance angle on underside of chipbreaker

## Objections

In his first article, Brian Greene said that he did not like the ruler trick but his objections suggest that he did not understand it properly. He described it as a quick method for dealing with out of flat blades – something which has been done forever.

I did not invent the technique but the original idea was to use it for all regular sharpening of plane – and other – blades, but never for chisels. Many objections are raised but none hold water.

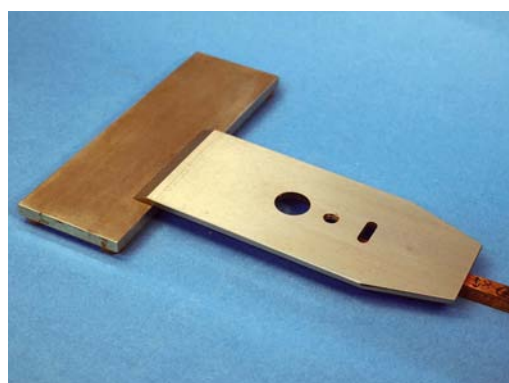
## Chipbreaker fit

A regular worry is that the polished back bevel will interfere with the chipbreaker fit. The angle of this minuscule back bevel is about two-thirds of one degree, on a 74mm-wide polishing stone. Craftsmen have created slight clearance angles on the underside front edges of their chipbreakers/cap irons since time immemorial. One just needs to arrange for clearance of something like 1.5°.

It is suggested that the back bevel won't work with slightly cambered blades. This is not so, although there may be some variation in the width of the polished band.

Some argue that the polished band will get wider and wider with time. Provided a suitable polishing stone is used, this does not happen, as the blade is being shortened – with an 800 grit stone – at each sharpening.

One of my favourite objections is that the – minute – back bevel will alter the effective pitch of a plane and thus its performance. Well I'm sure it does, but the change is much too small to be noticed.



Woodworkers split into two groups. Many have seen the logic of this approach and been delighted by the results they get, while others cling to tradition – and stropping. I have had a lot of fun from the feedback and many friends promote the method: Rob Cosman, Chris Schwarz, Deneb Puchalski and Tom Fidgen to name a few. *F&C*



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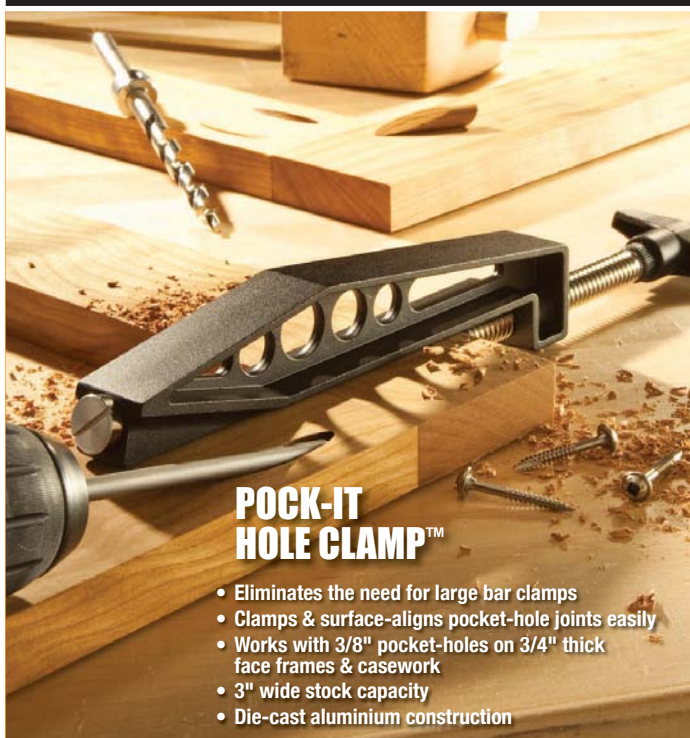


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# Furniture & cabinetmaking

ISSUE 230  
ON SALE  
19 MARCH

Construction tech

**John Bullar on  
Japanese joints  
– part 3**

## **Finish tech**

Roy Schack comes  
clean about the  
soap finish

## **Workshop tech**

Robert Ingham investigates  
Jo Walsh's technique for  
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Offset turning and the  
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Amy Grigg's not so rough  
guide to spoon carving



# Festool multi-function table



## Geoffrey Laycock combines the best of Festool and UJK in a multi-machine for the small workshop

I have a serious problem and I know many of you have the same one: having insufficient space in your workshop. My workshop is currently a more-or-less standard size single garage, which has part of the roof space decked out, floors and walls are painted, a standard up-and-over door and, fortunately, a side door. It is crammed full of cabinets, machines and materials, leaving little space for me and for working. But there never seems to be an end to the wood – and metal – related things I'm interested in and space just gets smaller and smaller.

Back in *F&C* 202, I reviewed the newly released UJK Technology cast-iron router table and was so impressed I bought one. Space being what it is and having a plan, I bought the compact version with its matching fence system. At 686 × 406 × 40mm this is still a good size and still weighs more than I want to move about too often. Mine is fitted with a UJK Technology aluminium insert and my Trend T11 router. Now around the same issue, the Editor reviewed the Festool MFT/3 multifunction table, making a very good case for substituting

this method of working rather than table and chop/mitre saws, both serious users of valuable space and for the increased safety as a spin-off. I knew this would be an answer to some of my work issues but just did not have the space to leave one assembled and assembling/storing each time of use was not going to work. The end result was the multi-function cabinet-based system you see here, housing the router table, plus the smaller MFT KAPEX-LP perforated top, which is available as a spare from Festool dealers: 813 × 526mm vs. 1,157 × 773mm.

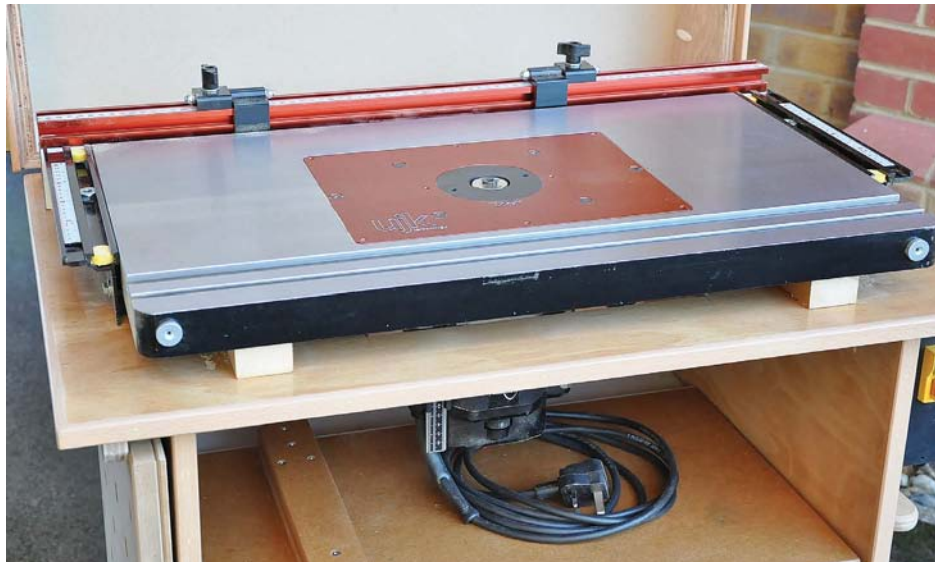


## What do we have?

In its current configuration my cabinet has a laminated kitchen worktop and a very convenient height for precision work while standing. This surface is good for gluing as wood adhesives will not stick to it, and general assembly. I have found it ideal for when I use the box gluing jig – see *F&C* 227. It houses a router table, which I use for small-scale precision work, usually for box making. It allows storage of my Festool TS55 plunge saw, guiderail accessory kit and the new Festool sleeved extraction hose, all in Systainer boxes. I have shelf storage for a cutting board and shooting board, which are both used on the worktop – my dedicated shooting plane also sits here. The end panel carries a mounted double socket outlet with heavy-duty cable, which is long enough to reach anywhere in the workshop and outside. This has a NVR adaptor for use with any router mounted in the table. Storage is provided for the adapted MFT top for use with my plunge saw.



There is space beneath the lid to store table inserts, fence accessories and my box making router bits



The router table sits at a convenient height. The fence is stored behind the table when not in use



A double electrical socket with long supply cable allows using a power tool and extractor, minimising trailing cables in the workshop. The NVR switch for use with a router is shown here in the position for use. The router plugs into the back of the switch

## Wiring the metal clad socket

*I wired the metal clad socket on the cabinet using a metal surface mounting box, extra flexible cable and rubber 13 amp plug. The correct clamping gland must be used for the cable entry. If you are in any doubt about doing this correctly, find a professional as everything you connect is going to depend on this vital link being 100% correct. The NVR switch illustrates my top power tool hate: inflexible cable. This will be replaced at some time. One of the design features I like from Festool is the super flexible cable used on all their tools – if only some of the other big names could do the same.*

## Construction

I previously settled on a basic design for any cabinets needed in the workshop and the first made was for a Metabo thicknesser. This allowed a few ideas to be tried and fine-tuned for subsequent variants. Each cabinet sits on four swivelling and braked 100mm diameter castors, which I bought from Rutlands. I have used these on a number of tables, cabinets and two huge steel drawer units probably weighing over 250kg each and in every case, the castors perform excellently with no signs of deformation or damage. Using the same castors for each cabinet ensures the base for all is the same height and ensuring the base size is the same or larger than anything above ensures the bases make contact with each other rather than anything else: they act as bumpers.

The base, top and cabinet sides are all 18mm plywood. I have used structural or WBP plywood for many things, including this particular cabinet, but it will be the last. In the last couple of so years, I have seen

a drastic fall in quality in these grades of plywood and from now on will pay the considerable amount extra for good quality birch plywood. The unit is quite simple with two sides and back joined by mitred corners – cut with my Festool TS55 saw and guiderail – secured with PVA glue and biscuits. The base is through screwed into the three sections with two of each of the four castor fasteners going into the side pieces. The castors are also through bolted for maximum strength. The top is secured with pocket-hole screws to allow easy replacement if necessary and has a hole cut the same size as the router table insert to allow the router to fit. Because of the poor quality of plywood used, I lipped all exposed edges with beech (*Fagus spp.*) strips, glued and pinned in place. This did mean the base and top have square corners whereas other examples have nicely rounded corners to reduce the effect of ankle contact with a sharpish corner.



One clamping knob allows the NVR switch to retract to avoid damage when not in use





The 100mm swivel castors are a good compromise between height and ease of movement – any smaller would not work



This is the setup for making the recess to install one of Andrew Crawford's SmartHinges. The UJK fence facings have been moved to the left so there is a continuous surface behind the workpiece but the left 'facing' is moved further to create a slot for high velocity extraction. The UJK fence stops are very easy to adjust

## Routing recesses

For routing hinge recesses I use spiral down-cut bits. Multiple flutes ensure accurate and tear-free cuts whilst the spiral down-cut element ensures no tear-out of the timber surface. Unfortunately all chips are forced into the bottom of the housing being cut which could then affect quality. With the extraction setup shown, extraction will be taken through the back of the fence from the area to the front of the box being machined. Further restricting the opening in the top of the fence increases airflow and chip capture even more but in many cases is not necessary.

## The router table

The UJK Technology router table has two softwood battens fixed to the bottom using the threaded fixing points provided and in turn the battens have a single screw in each, holding them in place on the cabinet top. These are tightened just enough to prevent movement – I wanted to avoid the battens or the mounting method in total from potentially inducing any stress into the cast iron table. The battens also ensure there is clearance for mounting the side rails to the table upon which the fence mounts. As I wanted to be able to use the

cabinet as a standing height working surface, I then constructed an open bottomed box lid, which was hinged at the back. At this point we are at cabinet version 1.0 but more was to come. I had worked out overall sizes so that the fence assembly would sit behind the router table, ensuring the overall height was not becoming too great. This does mean removing the fence when not in use but it takes about 30 seconds. I did ensure there was sufficient space between router table and lid for some storage and I have two plastic

trays plus a components box safely in there.

The hinges I chose were Lamello Duplex as I had just bought a pack and wanted to have a practice and also see how tough they might be. On that last point – I am amazed at how well they are holding up, especially when we reach cabinet version 1.2 where the lid is a substantial weight. One small tip if you use these or similar hinges for a door or top that you may want to remove frequently. I shortened one of the hinge pins by about 5mm so that one can be engaged followed by the second when replacing.



As you can see, the cabinet top opens to rest on two simple hinged brackets



The Lamello Duplex hinges are proving sturdier than appearance first suggested. I used the standard Lamello supplied high-quality screws into the top but much longer countersink head screws into the 'end grain' of the plywood top sides. I did find that a DeWalt biscuit machine may not be the most ideal due to the significant start-up torque that can easily cause misalignment, it is not the most refined of tools



This beech light duty cutting/paring board is a kitchen chopping board from IKEA; at £6 I wish I'd bought two. It's flat, nicely put together and saves the worktop from marks. I use it upside down as there is then a lip which locates against the front edge of the worktop. I also use a self-healing cutting mat



My shooting board is simply made from two layers of good quality 18mm MDF. There is a single stop on the underside and double thickness fence on top. I use low friction PTFE on the surface and edge the plane follows. I thought my Lie-Nielsen No.9 mitre plane was an indulgence when first bought but combined with this board it is an invaluable piece of kit, used for precision finishing box components to length and square

## Rubber 'O' rings on cutter shanks

Using rubber 'O' rings on cutter shanks is an old trick; they can be placed at the 'K' mark and the cutter then automatically sits at the correct depth in the router collet. In this case – see opposite – the cutter has no marking and has actually 'bottomed' in the collet so cannot be inserted any further





The Trend T11 router is a snug fit but once switched on I only need access from below to change speeds. Bit changing used to be relatively easy using an Axminster 1/4in collet extension but the sheer size of spanner needed plus having to use the router shaft lock was not the best. Changing to a Router Technologies 1/4in Xtreme Xtension from Peter Sefton has changed all that. Only access from above the table is required using one supplied T-handled Allen key. It comes with additional 1/4in collet sleeve. An 8mm collet sleeve is available and seen in the photograph. Unfortunately the 8mm sleeve is not from Router Technologies and strictly speaking is too long, but works. Highly recommended!



The Xtreme Xtension with 12.7mm down-cut spiral bit. From this position a quarter turn of the Allen key in the socket headed screw you can see releases the cutter. This solid tungsten carbide cutter is made by an American company called Whiteside and available from their UK base. So far the only downside I can see compared with my usual Wealden Tool Company supplied cutters is a lack of any 'K' marking to indicate minimum collet insertion depth

## Version 1.1 – more storage

Having confirmed that I could usefully use the cabinet as a working surface with my end grain shooting board and that the router table assembly all worked as planned, I decided to add a shelf for more storage. This was accurately cut and trimmed to size and held in place with Miller dowels. The idea was to provide a shelf and also add further stiffness to this open fronted box structure. I also added a couple of corner fillets beneath the top. This shelf now provides a resting place for a beech cutting board and my shooting board, which can sit flat as a result of careful planning.



This is the modified MFT replacement top shown with the Veritas Parf Dogs – designed by Peter Parfitt and available from Axminster Tools & Machinery. To the right is the separate piece for supporting longer timber. The metal stops all have 8mm threaded holes so Festool clamp handles or 8mm bolts can be used to add extra security from below – but not if the top is resting directly on a surface!



The top is now sitting on the sub-frame and has full extension of the timber support to the right. The longer of the metal Parf Dogs act as guides for the cutting guiderail while a combination of one long and one or more short ones are for locating the timber to be cut



This is the sub-frame. It attaches to the Festool MFT top with fixed dowels so is easily removed. I designed it so I can easily take my MFT top away from the workshop – without the frame – to use on our property renovation projects; it makes cutting skirting and architrave accurately a breeze

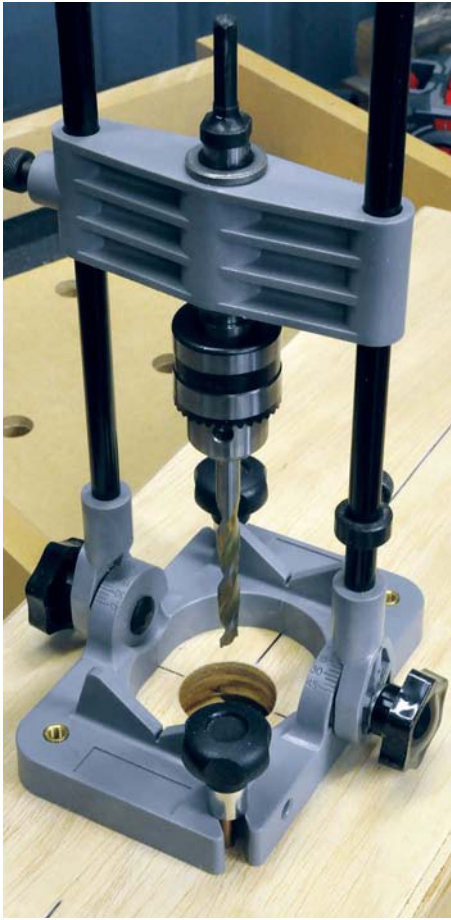
The locking knobs use these 8mm threaded inserts. Note they are placed on the inner side of the rails so are being pulled into the rail when the clamp is used





## PROJECTS & TECHNIQUES

### Construction tech – multi-function table



When drilling for dowels where disassembly is required, holes must be accurate. This is a good quality drilling jig I found. It is unusual in that any drill can be used and, in fact, for many smaller holes I use a drill/driver as the shank is a perfect hexagonal fit. It is mounted on a board for versatility and stability but can be disassembled in seconds



The MFT sub-frame can be clamped to the worktop although in practice most times this is not necessary. An alternative is to fit rubber draught excluder strip to the bottom of the sub-frame. The clamps are from Axminster Tools & Machinery and intended to hold false fences or similar



When not in use the MFT top, with its sacrificial top, simply slides into a holding position on the side of the cabinet

#### Version 1.2 – the work surface

Having recently completed a kitchen installation, I had a nice piece of spare worktop so off with the plywood box top. The worktop has now changed the overall plan size of this particular cabinet as I have extended it forwards slightly and left a good overhang at the left side, both to allow light duty clamping of items on top. Secured with pocket screws, this is now quite a bit heavier than planned but the Lamello Duplex hinges seem unaffected. I have two simple hinged supports at the back, which hold the top at about 100° open. I was intending to add a catch to prevent unwanted closing but in practice this was not needed.

To hold the closed top more securely in place I added wider beech strips to the two ends and front apron, glued, screwed in place, so any lateral forces are taken by these strips in contact with the section the router table is mounted on.

#### Version 1.3 – MFT

I simply could not find space for an MFT/3 but was convinced the system was going to help me significantly. The smaller replacement top was purchased and cut down for a number of reasons. I cut 50mm from one end to allow use as a timber support for longer pieces. I have never liked the idea of deliberately cutting the top when using the saw so made

a sacrificial top from 6mm MDF. I also added a similar top to the support piece so all would be the same depth.

#### Version 1.4 – & beyond

I eventually decided to add a support frame beneath the MFT top. This is 18mm MDF made to form a box beneath the top and was primarily to allow me to use 8mm setscrews from below to secure the Parf Dogs in place. I am experimenting with this as a sanding downdraft table so the frame has a suitable size hole at the end. I can also extract through the MFT top and TS55 saw using a hose splitter. The support section extends out, secured by two small plastic knobs with 8mm steel thread shank locating in thread inserts fixed from the opposite sides of the rails for maximum strength. I'm sure this cabinet will change. During 2015 we hope to move and suddenly my workshop could be three times in size. I would use high quality plywood to begin with; I would make it bigger and ensure I could include storage for the MFT support frame which the current version does not have. But having written that it is quite possible I will only further modify this one, after all it works. It is multi-functional, saves space and even with the rubbish plywood, looks good. In a subsequent article we will look at how it can be used in more detail. *F&C*

## Veritas Parf Dogs

*Veritas Parf Dogs are available in two sizes. You don't need a Festool MFT top to make use of them as a plain sheet of 18mm MDF can be drilled to suit your needs to allow accurate 90° and 45° cuts using a guiderail*

### Further information

#### 100mm swivel castors

**Contact:** Rutlands

**Web:** [www.rutlands.co.uk](http://www.rutlands.co.uk)

#### UJK Technology router tables and accessories, Veritas Parf Dogs

**Contact:** Axminster Tools & Machinery

**Web:** [www.axminster.co.uk](http://www.axminster.co.uk)

#### Whiteside Machine Company router cutters

**Contact:** Router Cutter

**Web:** [www.routercutter.co.uk](http://www.routercutter.co.uk)

#### Xtreme Xtension router collet extender

**Contact:** Woodworkers Workshop

**Web:** [www.woodworkersworkshop.co.uk](http://www.woodworkersworkshop.co.uk)



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Precisa 6.0 P-2	Professional	Inc 2m STC + TWE + TLE (ditto)	4.0 / 6.5	110 mm x 1400 mm	£2590.00	£3108.00
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STC = Sliding Table Carriage. TWE = Table Width Extension. TLE = Table Length Extension.

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PHOTOGRAPH BY GARY COOPER, JONES

# The Apprentice's notebook

**Waters & Acland student Jim Cooper chooses Scary Sharp to flatten the backs of his plane irons and get those wispy curls**

**A**fter a hard day at the flattening station preparing the sole of a plane, understandably our students are chomping at the bit to start making shavings. Those beautiful curly shavings they have been dreaming about. The shavings they see in magazines such as this and on the surrounding benches within our professional bench room. Unfortunately we're not there yet. A bit more precision metalwork is needed. We now need to focus on the plane blade and again flatness is the target. In order to make those dream shavings a razor-

sharp blade is required. In order to create a razor-sharp blade the back of the blade – in the area of the cutting edge – needs to be dead flat. If it isn't flat or you knock it out of flat through bad technique then those shavings just won't give themselves up easily and more importantly our students won't have the level of control needed to hit the standard of work that we pride ourselves on. Over to you, Jim.

## **Jim's notes**

We use the Scary Sharp system here at

Waters & Acland to flatten the backs of hand plane blades. The system was described in some detail last month – see *F&C 228* – in my notes on the flattening of the soles of hand planes. The only modifications to this process are the size of the glass plate and the size and coarseness of the film sheets used. A smaller piece of glass, measuring around 320mm by 220mm, is used for flattening the backs of hand plane blades. This size of glass will accommodate up to four strips of different grades of 3M Micro Finishing Film.



## Preparation for flattening

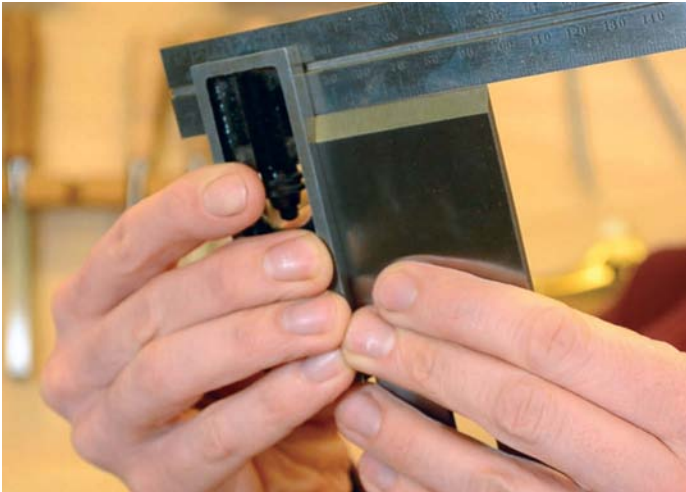
Initially, a piece of 100 micron film is applied to the glass. The width of the piece of film is slightly less than the section of the blade being flattened. For most hand plane blades cutting an A4 film sheet into three lengthwise, results in strips of around 70mm and works well.

The blade should be visually inspected before starting the grinding process. Firstly, the angle of the cutting edge should be checked. The cutting edge needs to be at right angles to the sides of the blade for the blade to sit correctly in the honing guide, which will be used later in the sharpening process, to produce a secondary bevel on the front of the blade. If the cutting edge is not at right angles to the sides of the blade, then the primary bevel will require regrinding.

Next, the cutting edge should be examined for chips, if any significant chips are found, then once again the primary bevel will require regrinding. Finally, the back of the blade should be examined

for flatness using a straightedge. A small amount of concavity along the length of the blade can be accommodated as the grinding process will eliminate this leaving a flat back in the area of the cutting edge. However, if the blade back has any appreciable convexity along its length, it will be difficult if not impossible to successfully grind the back of the blade flat. In this case it is suggested that the best way forward is to contact the supplier and request a replacement blade.

If the back of the blade is concave, the initial flattening may only result in total flatness in the vicinity of the cutting edge. This is acceptable, provided at least the first 5mm of the blade is flat. With time, given repeated sharpening, this area will progressively enlarge. Alternatively, if the back of the blade is convex, it will only be flattened in the vicinity of the cutting edge after the whole of the back of the blade has been flattened.



Checking the bevel is square to the side of the blade



Checking for any obvious distortion before flattening

## Flattening technique

After inspection the grinding process can begin. Once again, the grinding technique is very important. The blade should be moved across the film sheets using pull strokes only. The pull stroke should start with the tip of the blade slightly beyond the edge of the film sheet. The stroke should stop when the tip of the blade has reached around the middle of the film sheet.

Starting the stroke with the end of the blade beyond the edge of the film sheet will eliminate the risk of curving the end of the blade in the area of the cutting edge by touching the film sheet first when the blade is positioned at the start of each stroke. Stopping the stroke with the tip of the blade

in the centre of the film sheet will ensure that the blade can be held firmly against the film throughout the stroke, minimising the chance of introducing curvature in the area of the cutting edge due to raising the non-cutting end of the blade at the end of the stroke. It is very important to ensure that the back of the blade remains in full contact with the film sheet throughout the stroke and that the blade is never lifted off the film sheet during the stroke.

The way that the blade is removed from the film sheet at the end of the stroke is also critically important. The cutting edge end of the blade must always be removed from the film first. This can be achieved by pushing

down on the other end of the blade, which at the end of the stroke will be beyond the edge of the Scary Sharp glass plate. If this is not done, it is very easy to slightly curve the back of the blade near to the cutting edge, which will make it impossible to obtain the razor-sharpness that we are looking for. It is also essential that an even pressure is applied across the blade and that one side is not favoured.

As suggested before, a non-water-based lubricant such as WD-40 or GT85 is used both as a lubricant during grinding and, together with a cotton rag, to assist in the periodic removal of material ground from the back of the blade.



Start your stroke with the bevel off the film



Draw back in a straight line to the middle of the film



Lower the back of the blade at the end of the stroke



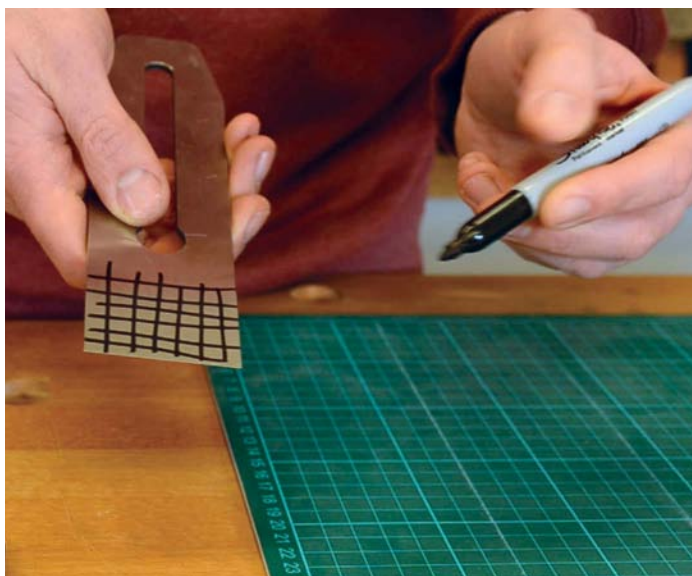
## Progress monitoring

Before starting the grinding process, a grid of lines should be marked on the back of the blade using a felt-tip pen. The blade should then be given a few pull strokes on the finishing film and the grid of line then re-examined. This re-examination will give an early indication of the flatness of the blade and those areas that are not flat.

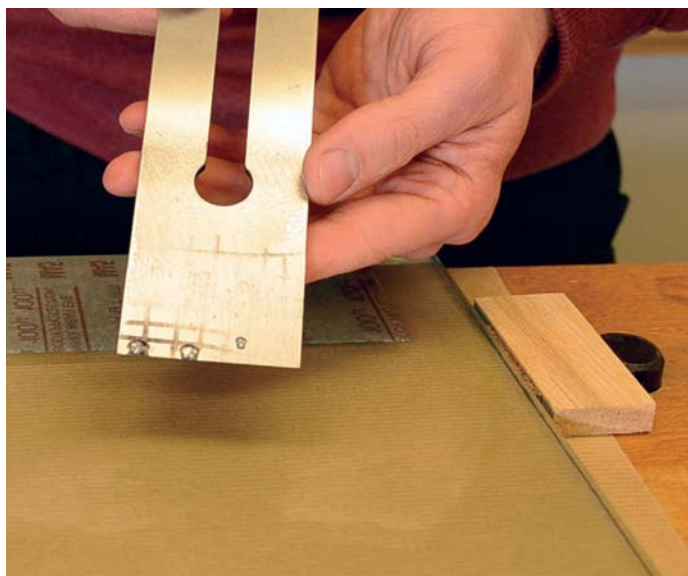
Thereafter, progress should be checked periodically by visual inspection of the scratch pattern. This will highlight the areas of the blade that are in contact with the film. Those areas still not in contact with the film will be obvious as they will not have a consistent scratch pattern and the marker pen grid lines will still be visible. Resist the temptation to apply extra pressure on specific areas of the blade to remove the grid lines. This will introduce convexity. Flat

can be determined when all the grid lines have been removed and a consistent scratch pattern has been achieved. It is now time to move onto the next stage of the process, grinding the back of the blade using progressively finer grades of film.

The recommended sequence for this is 100 micron followed by 40 and 15 micron. It's important to remain with a grade of film long enough to remove all scratches from the previous grade of film before moving onto a finer one. It will take progressively longer each time to remove the deep scratches using the finer grades of film as you progress through the sequence. Final polishing, with 9 and 5 micron film, and burr removal are done at a later stage and will be covered next month.



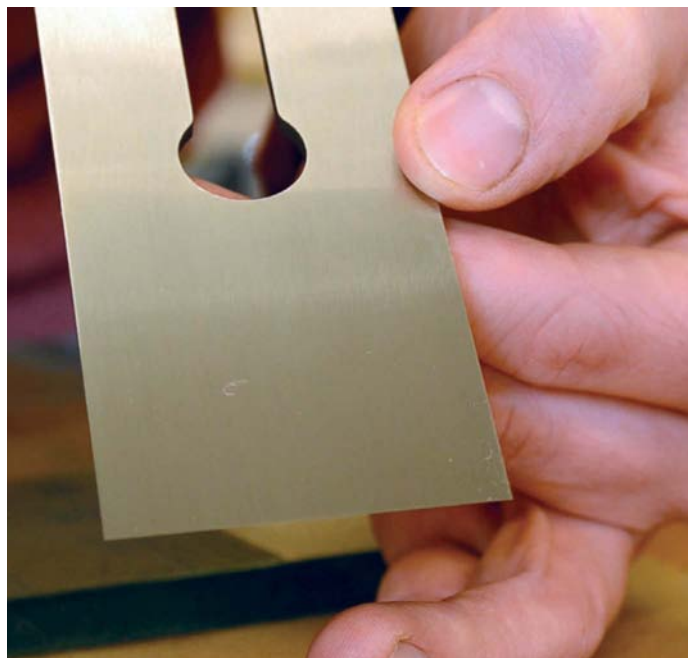
**Grid lines will help to identify the progress of grinding**



**The grid lines disappear and highlight the low spots**



**Achieve a uniform scratch pattern with each abrasive before moving on to the next**



**A reliable flat back will last the blade, and maybe the user, a lifetime**

## Conclusions from Waters & Acland

We do put a lot of thought into the methods behind our teaching. In this early stage of an aspiring cabinetmaker's training we have found they gain confidence in sound methodology and technique. Understanding the why as well as the how is equally important. A logical process that is repeatable and that gives results is one they can rely on for the rest of their career. The basic theory behind this short lesson is simple. We use the Scary Sharp system because it is

always flat. We use the pull stroke technique because it is consistent and repeatable. This system works and gets our students one step closer to that perfect shaving! One step closer to gaining control of what is one of the most important tools – the hand plane.

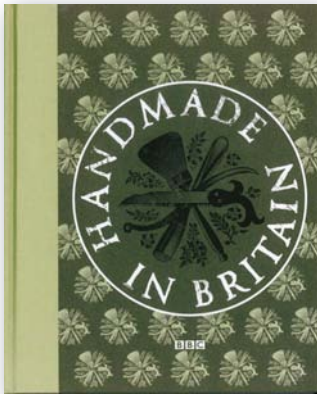
To see the full video sequence outlined in this article, plus many other instructional videos as they appear in the series, visit our YouTube channel: [www.youtube.com/user/watersandacland](http://www.youtube.com/user/watersandacland). *F&C*



# Workshop library

Derek Jones reviews *Handmade in Britain* and *Georgian Architecture in the British Isles 1714–1830*. We also have a book offer on the *Woodworker's Pocket Reference*

## BOOKS



### Handmade in Britain by Joanna Norman

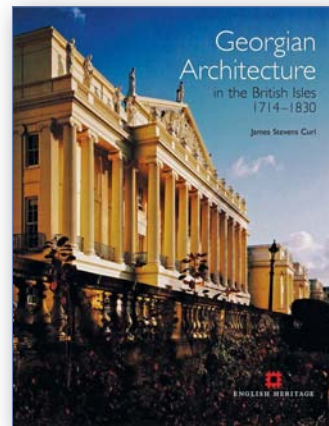
A part from the title of course, what attracted me to this book was the heraldic motif on the front cover. With the resurgence of interest in Roubo and Moxon, I guess that woodworkers are getting used to seeing stylised representations of familiar 'shop objects in print. The *Handmade in Britain* motif has what we might assume to be a dovetail saw and a gouge crossed with a polishing mop and a sculpting knife – all specialist tools in their own right. This book also accompanies the year-long season of TV programmes of the same name in partnership with the BBC and the Victoria & Albert Museum from back in 2011. With the focus on the relationship between

historical and contemporary craftsmanship, this is not in any way a 'how to' book. Instead, the author tells the story of craftsmen working across several disciplines, such as stained glass, ceramics, metalwork, wood and fabric. Despite the differences there are some great parallels to be drawn from the various media. Religious iconology, social history across several millennia and the controlling forces of the Guilds are all covered in this book. If you thought the 'top dog's' bottom dog had it bad – that's a sawing reference in case you were wondering – then spare a thought for the lowly apprentice silversmith or ceramicist who worked every day with chemicals that are even too noxious to be listed on the noxious list by today's standards. As a craftsman in today's world, *Handmade in Britain* succeeds in drawing attention to the similarities between the past and today's craftsmen; hard work and talent are not necessarily associated with great wealth unless of course you are the patron in the relationship.

In the introduction, the author says: "The V&A has always been motivated by the intention to educate, but also to inspire creativity." That it does, and I strongly recommend you spend as much time with each of the crafts to learn not just their

tricks of the trade but their heritage as well. *Handmade in Britain* might be one that woodworkers want to read from back to front. The section on wood is the final chapter and ends with several pages devoted to John Makepeace. Leaving the best to last, perhaps? I'm biased of course but far less so than before.

ISBN: 9781851777082  
£25 176 pages  
V&A Publishing



### Georgian Architecture in the British Isles 1714–1830

by James Stevens Curl

Even if the link between Architecture and furniture is not well known, the relationship is no more obvious than when viewed in the context of the Georgian style. In itself a minestrone of influences, the style covers Roman and Greek architecture, Chinoiserie, Rococo and gothic with a national seal of approval. Georgian architecture, in all its guises was the epitome of good taste long before the four Georges, whose reigns this book spans, got their hands on it. On the sleeve notes the author describes a picture that we are all familiar with: "A well mannered and reticent appearance" but as he rightly states, this is only the tip of

the iceberg. First published in 1993, *Georgian Architecture in the British Isles 1714–1830* is a fully revised and newly illustrated edition that sets out to discuss all of the above influences. English Heritage is the Government's statutory advisor on all aspects of the historic environment so a more appropriate authority on the subject is hard to imagine. However, the author's style couldn't be less authoritarian if he tried. In the wrong hands, or words, history can be a dull subject but here we have tales of decorous entertainment, profligacy and sin to set the scene. Georgian architecture was as much for the people as by the people and although it's the high-brow buildings that are perhaps the signature pieces of this style, the local hostelry has had just as much influence on our national history and the goings on inside them.

This is not a manual of proportions or explanations of the perfect ratio, which is not to say that the classical orders are absent in the text. Instead we get to learn about the society that made this architecture possible in the first place. In short, it adds personal interest to what could be a rather dry subject. To give you some idea of the breadth in this style, this book is broken up into 10 different chapters all of which are obvious when they're spelled out, and I thank Mr Curl for this aspect alone. Anyone with an interest in the built environment would do well to read this book for I suspect it will change your perceptions about many more things other than architecture. So for furniture makers, what could the benefits be in taking my advice? Without a doubt, Georgian architecture is the master of appearance and façade and maybe that's something that's missing from contemporary furniture design? I like the idea that the



Marquetry and inlay techniques from the start of the 16th century

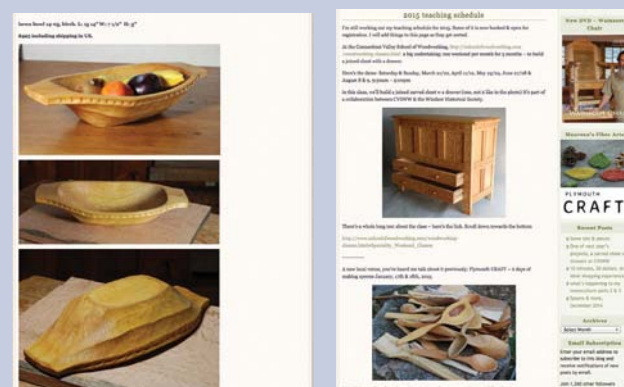


## Website of the month Joiner's Notes

This month's website of the month comes in the shape of Peter Follansbee's blog, Joiner's Notes. As mentioned on his homepage, Peter makes reproductions of 17th-century joined furniture, which include: boxes, chests, chairs, tables and more. Working primarily with oak (*Quercus spp.*) – but also in pine (*Pinus spp.*), maple (*Acer saccharum*) and ash (*Fraxinus spp.*), Peter's work is all done exclusively with hand tools and follows the techniques and methods used within his focus era.

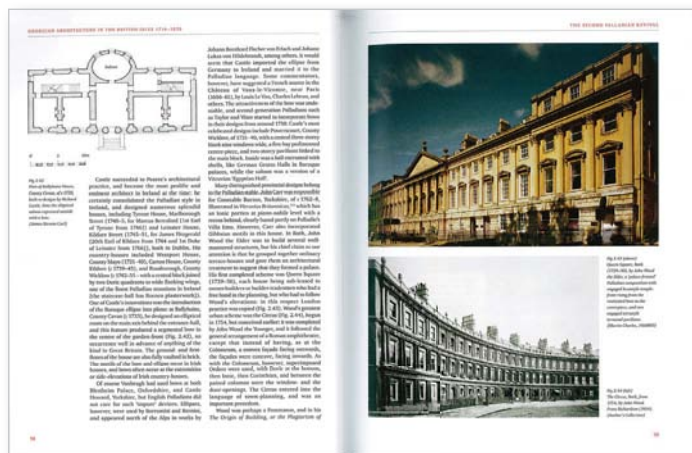
The website menu is only small and at the very top of the webpage, perhaps not drawing as much attention to it as it could. From this menu you can visit Peter's 'online publications, bibliography' page, where Peter has listed his past online articles, but with only links to a couple of them. Other page options include 'contact' and a page promoting and selling Peter's books and DVDs, of which he has a good number. The last two menu options are: '2015 teaching schedule' and 'spoons & more, December 2014', through which Peter is selling various spoons, bowls and other products.

It is clear that Peter is happy to answer any questions posted on his website, so if there is anything you would like to know regarding his area of work, then do not hesitate to ask him!



### Details

Web: [www.pfollansbee.wordpress.com](http://www.pfollansbee.wordpress.com)



The book contains photos as well as drawings of the different building layouts

Georgians were not ashamed to have a good time and celebrated all that is good and bad in life in public. It may not always be pretty but at least you know where you stand.

For the more studious reader, *Georgian Architecture* is expertly catalogued with a comprehensive bibliography that serves as an important

reference for any further reading or research, but ultimately a little time spent with it on your lap will enable you to look at the surviving architecture of the period with informed and discerning eyes.

ISBN: 9781848020863  
£50 452 pages  
English Heritage



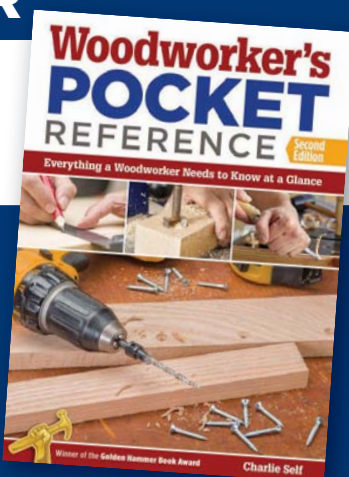
Archaeology and the revival of classic antiquity

## BOOK OFFER

### Woodworker's Pocket Reference, Second Edition

by Charlie Self

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# UNDER THE HAMMER:

## 'The Period Design' sale – a preview

**Bonhams gives *F&C* a preview of their upcoming Period Design sale**

**H**eld both in London at Bonhams' Knightsbridge saleroom and the West Coast of America at Bonhams' Los Angeles and San Francisco salerooms, Period Design and Period Art and Design is a regular sale, which includes a wonderful selection of 18th-, 19th- and early 20th-century English and Continental furniture,

works of art, sculpture, mirrors, carpets, rugs as well as a selection of clocks and pictures, with estimates ranging between £400 and £10,000. Each issue includes an interview with a top interior designer who discusses current design trends. Here you can see a selection of the lots which will be going under the hammer.



**George I style giltwood centre table, 1,520mm wide x 930cm deep x 860cm high**

### **A George I style giltwood centre table**

This centre table features a rectangular verde antico marble top above an acanthus clasped frieze, over a scrolled acanthus carved apron with shaped griffin bust spandrels. It is presented on four square section cabriole legs, each headed with a bearded male mask within addorsed C-scrolls, terminating in foliate wrapped scroll feet. This piece measures 1,520mm wide x 930mm deep x 860mm high. This piece is expected to raise somewhere in the region of £8,000-£12,000.

### **A carved mahogany neo-classical serpentine side table**

This mahogany (*Khaya ivorensis*) neo-classical serpentine side table features a shaped top above an anthemion, bellflower and paterae carved frieze on stiff leaf. There are also guilloche and fluted tapering legs on lobed feet, basically George III and reduced in width. This piece measures 1,030mm wide x 650mm deep x 890mm high and is expected to reach somewhere in the region of £6,000-£9,000.



**Carved mahogany neo classical serpentine side table, 1,030mm wide x 650mm deep x 890mm high**



**A late 17th-century walnut marquetry longcase clock**

This late 17th-century walnut (*Juglans spp.*) marquetry longcase clock, made by Christopher Gould, London, features an associated case with flat topped hood over pierced fretwork and barley twist columns. The trunk door features three inlaid panels of birds and flowers on a matching base and the 280mm square brass dial is signed along the lowermost edge 'Chr. Gould, Londini fecit', with single line border enclosing the elaborate winged cherubs and head spandrels interspersed by foliate engraving. The silvered Roman and Arabic chapter ring encloses the subsidiary seconds dial, matted centre, decorated date aperture and ringed winding squares and the movement has five knopped and finned pillars, anchor escapement and rack strike on a bell. This piece measures 2.07m high and the estimated selling price is between £4,000-£6,000.



A late 17th-century walnut marquetry longcase clock, made by Christopher Gould, London, 2.07m high

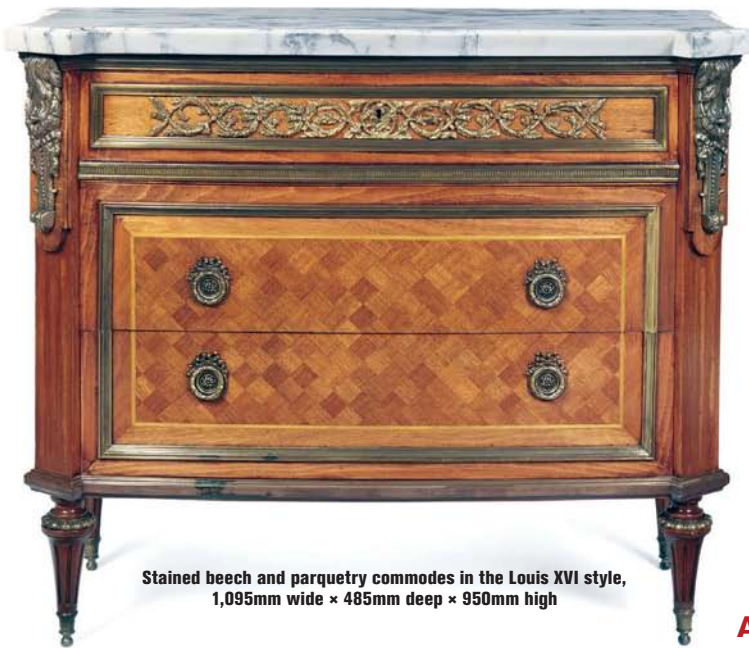


Italian 18th-century giltwood and painted faux-porphry mirror, 800mm wide x 1,630mm high

**An Italian 18th-century giltwood and painted faux-porphry mirror**

Possibly Sicilian, the rectangular glass-plate of this piece is surmounted by a shaped pediment centred by a pair of seated cherubs within carved scrolling acanthus leaves. It measures 800mm wide x 1,630mm high and is expected to reach between £5,000-£7,000.





Stained beech and parquetry commodes in the Louis XVI style,  
1,095mm wide × 485mm deep × 950mm high



### A pair of stained beech and parquetry commodes in the Louis XVI style

These stained beech (*Fagus spp.*) and parquetry commodes in the Louis XVI style feature projecting canted angles with moulded marble top above a frieze drawer over two drawers with sans traverse lozenge inlay. They measure 1,095mm wide × 485mm deep × 950mm high and are expected to sell for somewhere between £5,000-£7,000.



A mid Victorian porcelain and gilt metal mounted burr yew and ebonised bonheur du jour,  
625mm wide × 460mm deep

### A mid-Victorian porcelain and gilt metal mounted burr yew and ebonised bonheur du jour

This mid-Victorian porcelain and gilt metal mounted burr yew (*Taxus baccata*) and ebonised bonheur du jour features small proportions with the three-quarter galleried top above a pair of doors inset with Sevres-style painted porcelain oval plaques of ladies. The piece encloses one shelf, with an oval floral painted plaque to each side, over one frieze drawer with a sliding gilt-tooled leather inset top, with two open shelves and a mirrored back below. It measures 625mm wide × 460mm deep × 1,280mm high and is estimated to make somewhere in the region of £4,000-£6,000.

For more information on any of these lots, see Bonhams' website: [www.bonhams.com](http://www.bonhams.com). F&C





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**£298.62**  
INC VAT



For extended rail use two guide rails, which can easily be fitted together with the connection piece.



The MT 55cc works with or without a rail - simply turn the pointer to show the exact cutting depth.



Mafell offers the fastest blade change worldwide. Simply press the release button and lift the lever.



# The PT260 Planer Thicknesser.

## Same Great Machine, New Lower Price.

The PT260 needs little introduction, having found its way into countless workshops over the past decade. Its capacities, build quality and reliability make it the obvious choice for the discerning woodworker.

### What They Say...



#### The Woodworker

"I fed some 180 mm wide pine through the thicknesser at a 2 mm depth of cut, getting excellent results without straining the motor...it's useful to know the Record will cope. For it's price the Record is excellent value."

#### Good Woodworking

"At an overall length of one metre the tables are ideal and they are remarkably accurate as well. My straight edge showed no significant discrepancy over the whole length - something other major manufacturers should learn from... a very capable machine."

#### Practical Woodworking

#### PT260-PK/A PT260 & CX2000 Package Deal

**£699.95**



**Save £300**  
Off RRP

Price valid until 28.02.2015. E&OE.



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pedal  
wheel  
kit



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